
**Silicon Photodetectors,
Optical Sensors and
Infrared Emitters**

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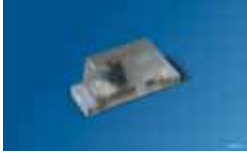
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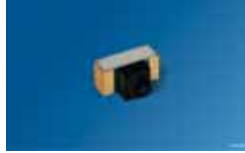
Summary of Types

Phototransistors

SMT Transistors



SmartLED 0603
SFH 3010
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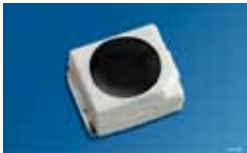
CHIPLED with lens
SFH 3015 FA
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Micro SIDELED
SFH 3204
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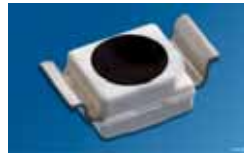
TOPLED
SFH 320
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TOPLED
SFH 320 FA
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TOPLED with Lens
SFH 3219
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TOPLED RG
SFH 3211 FA
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SIDELED
SFH 325
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SIDELED
SFH 325 FA
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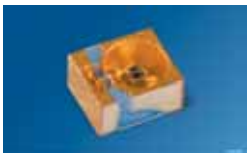


Smart DIL
SFH 3400 / SFH 3401
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Premolded SMD
SFH 3201
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SMT Transistors in low profile, narrow angle MIDLED package



MIDLED
SFH 3600
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MIDLED
SFH 3605
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Detector/Emitter in Multi TOPLED package



Multi TOPLED
SFH 331 / SFH 7221 / SFH 7225
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Silicon Photodetectors

Summary of Types

Phototransistors

Phototransistors in clear plastic package



T 1
SFH 309 / SFH 310
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T 1
SFH 309 P
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T 1 3/4
SFH 300 / SFH 314
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T 1 3/4 SMR
SFH 3500
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Sidelooker
LPT 80 A
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Plastic package with daylight blocking filter for 880/950 nm IRED



T 1
SFH 309 FA / SFH 310 FA
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T 1
SFH 309 PFA
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T 1 3/4
SFH 300 FA / SFH 313 FA / SFH
314FA
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T 1 3/4
SFH 303 FA
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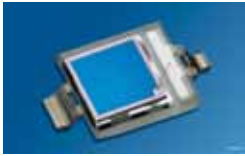
Mini Sidelooker
SFH 3100 F
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Silicon Photodetectors

Summary of Types

Photodiodes

SMT PIN Photodiodes in clear package



SMT DIL
BP 104 S / BPW 34 S / BPW 34 BS
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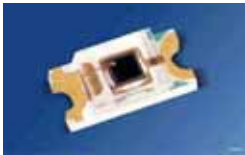
SMT DIL
BPW 34 SR, BP 104 SR
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Smart DIL
SFH 2400
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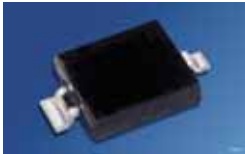


T1 3/4 SMR
SFH 2400
SFH 2505
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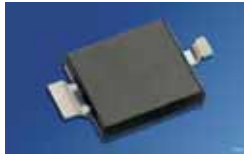


CHIPLED
SFH 2701
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SMT PIN Photodiodes with daylight blocking filter



SMT DIL
BP 104 FS / BP 104 FAS / BPW 34 FS
/ BPW 34 FAS
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SMT DIL RG
BP 104 FASR, BPW 34 FSR, BPW 34
FASR
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Smart DIL
SFH 2400 FA, SFH 2400 FAR
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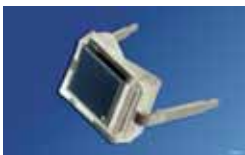


SMR
SFH 2500 FA
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SMR
SFH 2505 FA
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PIN Photodiodes in clear plastic package



DIL
BPW 34 / BPW 34 B
Page / Seite: 126



T 1
SFH 229
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T 1 3/4
SFH 203 / SFH 213
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T 1 3/4
SFH 203 P
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Silicon Photodetectors

Summary of Types

Photodiodes



Sidelooker
SFH 206 K
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PIN Photodiodes with daylight blocking filter matched for 880 nm IRED



DIL
BPW 34 FA
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T092
SFH 225 FA / SFH 235 FA
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T 1
SFH 229 FA
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T 1 3/4
SFH 203 FA / SFH 213 FA
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T 1 3/4
SFH 203 PFA
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Sidelooker
SFH 205 FA
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PIN Photodiodes with daylight blocking filter matched for 950 nm IRED



DIL
BP 104 F, BPW 34 F
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Sidelooker
SFH 205 F
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Silicon Photodetectors

Summary of Types

Ambient Light Sensors

Photodiode Ambient Light Sensors



TO39
BPW 21
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SMT DIL
SFH 2430
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TOPLED RG
SFH 2270 R
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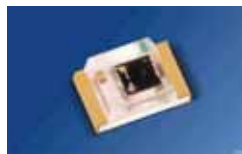
Phototransistor Ambient Light Sensors



T 1
SFH 3310
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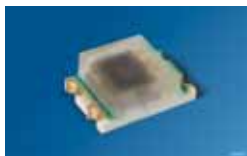


Smart DIL
SFH 3410
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CHIPLED
SFH 3710
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High Accuracy Ambient Light Sensors



CHIPLED
SFH 5711
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Ambient Light Sensors with I²C bus interface



CHIPLED
SFH 5712
Page / Seite: 130

Silicon Photodetectors

Summary of Types

Photodetectors for special applications

Phototransistor Arrays in plastic package



Mini Array
SFH 305
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Mini Array
BPX 81
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Array
BPX 80 / BPX 82-89
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Phototransistors in metal package



TO18
BPY 62 / BPX 43
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TO18
BPX 38
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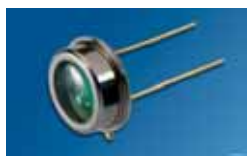


TO18
BP 103
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PIN photodiodes in metal package



TO18
BPX 65
Page / Seite: 132



TO39
BPX 61
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Schmitt Trigger



Smart DIL
SFH 5440
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Mini Sidelooker
SFH 5140 F
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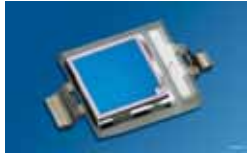
TO18
SFH 5840
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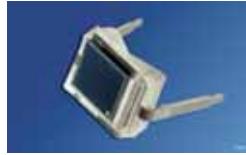
SMT RLS
SFH 9240
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Photodetectors for special applications

Blue sensitive photodiode



SMT DIL
BPW 34 BS
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DIL
BPW 34 B
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Dual photodiodes



TO39
SFH 221
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DIL
BPX 48
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SMT DIL
KOM 2125
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Silicon Photodetectors

Phototransistors



Package	Type	Half angle ϕ [°]	Radiant sensitive area typ. [mm ²]	Measurement cond.		V_{CE} max. [V]	$\lambda_{10\%}$ typ. [nm]	t_r, t_f typ [μs]	Ordering Code	Package Fig.	
				I_{PCE} [μA]							
SMT Transistors											
	SFH 3010	± 80	0.04	≥ 25	$\lambda = 950 \text{ nm}, E_e = 0.5 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	15	420 ... 1100	7	Q65110A6458	1	
SmartLED 0603											
	SFH 3015 FA	± 13	0.04	100 ... 800	$\lambda = 950 \text{ nm}, E_e = 0.1 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	15	770 ... 1090	7	Q65110A9730	98	
CHIPLED with lens											
	SFH 3204	± 60	0.04	≥ 32	$\lambda = 950 \text{ nm}, E_e = 0.1 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	15	450 ... 1120	7	Q65110A2506	6	
Micro SIDELED											
	SFH 320	± 60	0.038	16 ... 80	$\lambda = 950 \text{ nm}, E_e = 0.1 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	450 ... 1150	7	Q65110A2471	2	
	SFH 320-3			25 ... 50				7.5			Q65110A2469
	SFH 320-3/4			25 ... 80				8			Q65110A1781
	SFH 320-4			40 ... 80				8			Q65110A2510
	SFH 320 FA	± 60	0.038	16 ... 80	$\lambda = 950 \text{ nm}, E_e = 0.1 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	750 ... 1120	7	Q65110A2472	2	
	SFH 320 FA-3			25 ... 50				7.5			Q65110A2470
	SFH 320 FA-3/4			25 ... 80				8			Q65110A2475
	SFH 320 FA-4			40 ... 80				8			Q65110A1836
	SFH 3219	± 25	0.038	≥ 63	$\lambda = 950 \text{ nm}, E_e = 0.1 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	450 ... 1150	7	Q65110A2651	3	
TOPLED with Lens											
	SFH 3211 FA	± 60	0.038	16 ... 80	$\lambda = 950 \text{ nm}, E_e = 0.1 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	750 ... 1120	7	Q65110A2526	4	
	SFH 3211 FA-3/4			25 ... 80				7.5			Q65110A2528
	SFH 325	± 60	0.038	16 ... 80	$\lambda = 950 \text{ nm}, E_e = 0.1 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	450 ... 1120	7	Q65110A2486	5	
	SFH 325-3			25 ... 50				7.5			Q65110A2488
	SFH 325-3/4			25 ... 80				8			Q65110A2491
	SFH 325-4			40 ... 80				8			Q65110A2484
	SFH 325 FA	± 60	0.038	16 ... 80	$\lambda = 950 \text{ nm}, E_e = 0.1 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	750 ... 1120	7	Q65110A2487	5	
	SFH 325 FA-3			25 ... 50				7.5			Q65110A2482
	SFH 325 FA-3/4			25 ... 80				8			Q65110A2490
	SFH 325 FA-4			40 ... 80				8			Q65110A2485

Silicon Photodetectors

Package	Type	Half angle φ [°]	Radiant sensitive area typ. [mm ²]	Measurement cond.		V_{CE} max. [V]	$\lambda_{10\%}$ typ. [nm]	t_r, t_f typ [μs]	Ordering Code	Package Fig.
				I_{PCE} [μA]						
 SmartDIL	SFH 3400	± 60	0.55	63 ... 320	$\lambda = 950 \text{ nm}, E_e = 0.1 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	20	460 ... 1080	24	Q65110A2629	7
	SFH 3400-2/3			100 ... 320				29	Q65110A2634	
 SmartDIL	SFH 3401	± 60	0.55	63 ... 320	$\lambda = 950 \text{ nm}, E_e = 0.1 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	20	460 ... 1080	24	Q65110A2635	8
	SFH 3401-2/3			100 ... 320				29	Q65110A2644	
 Premolded SMD	SFH 3201	± 60	0.55	63 ... 320	$\lambda = 950 \text{ nm}, E_e = 0.1 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	20	460 ... 1080	24	Q65110A1207	9
	SFH 3201-2/3			100 ... 320				29	Q65110A2479	


Package	Type	Half angle φ [°]	Radiant sensitive area typ. [mm ²]	Measurement cond.		V_{CE} max. [V]	$\lambda_{10\%}$ typ. [nm]	t_r, t_f typ [μs]	Ordering Code	Package Fig.
				I_{PCE} [μA]						

SMT Transistors in low profile, narrow angle MIDLED package


 MIDLED	SFH 3600	± 20	0.04	100 ... 500	$\lambda = 950 \text{ nm}, E_e = 0.1 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	500 ... 1100	45	Q65110A1573	10
	SFH 3600-2/3			100 ... 320				37	Q65110A2665	
	SFH 3600-3/4			160 ... 500				57	Q65110A2666	
 MIDLED	SFH 3605	± 20	0.04	100 ... 500	$\lambda = 950 \text{ nm}, E_e = 0.1 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	500 ... 1100	45	Q65110A1574	10
	SFH 3605-2/3			100 ... 320				37	Q65110A2663	
	SFH 3605-3/4			160 ... 500				57	Q65110A2664	


Package	Type	Emitter						Ordering Code	Package Fig.
		λ_{peak} typ [nm]	Half angle φ [°]	I_V [mcd]	Measure-ment cond.	V_F [V]	Measure-ment cond.		

Detector/Emitter in Multi TOPLED package








 Multi TOPLED	SFH 331-JK	635	± 60	6 (4 ... 12.5)	$I_F = 10 \text{ mA}$	2 (≤ 2.6)	$I_F = 10 \text{ mA}$	Q65110A2821	11
	Detector								
	Radiant sensitive area typ. [mm ²]	I_{PCE} [μA]	Measurement cond.	V_{CE} max. [V]	$\lambda_{10\%}$ typ. [nm]	t_r, t_f typ [μs]			
0.038	≥ 16	$\lambda = 950 \text{ nm}, E_e = 0.1 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	440 ... 1150	7				

Silicon Photodetectors









Package	Type	Emitter						Ordering Code	Package Fig.
		λ_{peak} typ [nm]	Half angle φ [°]	I_e [mW/sr]	Measure- ment cond.	V_F [V]	Measure- ment cond.		
Detector/Emitter in Multi TOPLED package									
 Multi TOPLED	SFH 7221	880	± 60	≥ 4	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	1.5 (≤ 1.8)	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	Q65110A2741	12
Detector									
		Radiant sen- sitive area typ. [mm ²]	I_{PCE} [μA]	Measure- ment cond.	V_{CE} max. [V]	$\lambda_{10\%}$ typ. [nm]	t_r, t_f typ [μs]		
		0.038	≥ 16	$\lambda = 880 \text{ nm}, E_p = 0.1 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	440 ... 1150	7		

Package	Type	Emitter						Ordering Code	Package Fig.
		λ_{peak} typ [nm]	Half angle φ [°]	I_V [mcd]	Measure- ment cond.	V_F [V]	Measure- ment cond.		
Detector/Emitter in Multi TOPLED package									
 Multi TOPLED	SFH 7225	591	± 60	63 ... 200	$I_F = 20 \text{ mA}, t_p = 20 \text{ ms}$	2 (≤ 2.6)	$I_F = 20 \text{ mA}, t_p = 20 \text{ ms}$	Q65110A2743	11
Detector									
		Radiant sen- sitive area typ. [mm ²]	I_{CE} typ [μA]	Measure- ment cond.	V_{CE} max. [V]	Crosstalk $I_{PCE, \text{typ}}$ [mA]	Measure- ment Condi- tions		
		0.038	650	Std. Light A, $E_v = 1000 \text{ lx}, V_{CE} = 5 \text{ V}$	35	0.5 ... 5	$I_F = 20 \text{ mA}, V_{CE} = 5 \text{ V}$		

Silicon Photodetectors







Package	Type	Half angle φ [°]	Radiant sensitive area typ. [mm ²]	I_{PCE}	Measurement cond.	V_{CE} max. [V]	$\lambda_{10\%}$ typ. [nm]	t_r, t_f typ [μs]	Ordering Code	Package Fig.
				[mA]						
Phototransistors in clear plastic package										
 T 1	SFH 309	± 12	0.038	0.4 ... 5	$\lambda = 950 \text{ nm}, E_e = 0.5 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	380 ... 1150	7	Q62702P0859	13
	SFH 309-3/4			0.63 ... 2				6.5		
	SFH 309-4			1 ... 2				7		
	SFH 309-4/5			1 ... 3.2				7.5		
	SFH 309-5			1.6 ... 3.2				8		
	SFH 309-5/6			1.6 ... 5				8.5		
 T 1	SFH 310	± 25	0.11	0.63 ... 3.2	$\lambda = 950 \text{ nm}, E_e = 0.5 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	450 ... 1100	9	Q62702P0874	14
	SFH 310-2/3			0.63 ... 2				7.5		
 T 1	SFH 309 P	± 75	0.038	≥ 0.063	$\lambda = 950 \text{ nm}, E_e = 0.5 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	380 ... 1180	6	Q62702P0245	15
 T 1 3/4	SFH 314	± 40	0.55	≥ 0.63	$\lambda = 950 \text{ nm}, E_e = 0.5 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	70	460 ... 1080	11	Q62702P1668	16
	SFH 314-2/3			1 ... 3.2					Q62702P3600	
 T 1 3/4	SFH 300	± 25	0.11	≥ 0.63	$\lambda = 950 \text{ nm}, E_e = 0.5 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	450 ... 1100	10	Q62702P1189	17
	SFH 300-3/4			≥ 1					Q62702P3586	
 T1 3/4 SMR	SFH 3500	± 13	0.55	4 ... 20	$\lambda = 950 \text{ nm}, E_e = 0.5 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	450 ... 1060	19	Q65110A2636	18
 Sidelooker	LPT 80A	± 35	0.11	≥ 0.25	$\lambda = 950 \text{ nm}, E_e = 0.5 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	30	450 ... 1100	10	Q68000A7852	19

Silicon Photodetectors




Package	Type	Half angle φ [°]	Radiant sensitive area typ. [mm ²]	Measurement cond.		V_{CE} max. [V]	$\lambda_{10\%}$ typ. [nm]	t_r, t_f typ [μs]	Ordering Code	Package Fig.	
				I_{PCE} [mA]							
Plastic package with daylight blocking filter for 880/950 nm IRED											
 T 1	SFH 309 FA	± 12	0.038	0.4 ... 5	$\lambda = 950 \text{ nm}, E_e = 0.5 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	730 ... 1120	7	Q62702P0941	13	
	SFH 309 FA-3/4			0.63 ... 2				6.5			
	SFH 309 FA-4			1 ... 2				7			
	SFH 309 FA-4/5			1 ... 3.2				7.5			
	SFH 309 FA-5			1.6 ... 3.2				8			
SFH 309 FA-5/6	1.6 ... 5	8.5	Q62702P5199								
 T 1	SFH 310 FA	± 25	0.11	0.4 ... 3.2	$\lambda = 950 \text{ nm}, E_e = 0.5 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	740 ... 1100	9	Q62702P1673	14	
	SFH 310 FA-2/3			0.63 ... 2				7.5			Q62702P3596
 T 1	SFH 309 PFA	± 75	0.038	≥ 0.063	$\lambda = 950 \text{ nm}, E_e = 0.5 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	730 ... 1120	6	Q62702P0246	15	
 T 1 3/4	SFH 313 FA	± 10	0.55	≥ 2.5	$\lambda = 950 \text{ nm}, E_e = 0.5 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	70	740 ... 1080	10	Q62702P1674	20	
	SFH 313 FA-2/3			4 ... 12.5				11			Q62702P3597
	SFH 313 FA-3/4			≥ 6.3				13			Q62702P5196
 T 1 3/4	SFH 314 FA	± 40	0.55	≥ 0.63	$\lambda = 950 \text{ nm}, E_e = 0.5 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	70	740 ... 1080	11	Q62702P1675	16	
	SFH 314 FA-2/3			1 ... 3.2				Q62702P3599			
 T 1 3/4	SFH 300 FA	± 25	0.11	≥ 0.63	$\lambda = 950 \text{ nm}, E_e = 0.5 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	730 ... 1120	10	Q62702P1193	17	
	SFH 300 FA-3/4			≥ 1				Q62702P3585			
 T 1 3/4	SFH 303 FA	± 20	0.11	≥ 1	$\lambda = 950 \text{ nm}, E_e = 0.5 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	750 ... 1120	13	Q62702P0958	21	
	SFH 303 FA-3/4			≥ 1.6				14	Q62702P3587		
 Mini Sidelooker	SFH 3100 F	± 14	0.11	0.4 ... 5	$\lambda = 950 \text{ nm}, E_e = 0.5 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	850 ... 1100	9	Q62702P5073	22	

Silicon Photodetectors


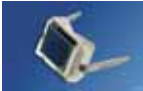





Photodiodes

Package	Type	Half angle $\varphi \pm$ [°]	Radiant sensitive area typ. [mm ²]	Measurement cond.		Measurement cond.		$\lambda_{10\%}$ typ. [nm]	Measurement cond.		Ordering Code	Package Fig.
				I_P [μA]	I_R [nA]	t_r, t_f typ [μs]						
 SMT DIL	BP 104 S	± 60	4.84	55 (≥ 40)	$E_v = 1000$ lx, Std. Light A, $V_R = 5$ V	2 (≤ 30)	$V_R = 10$ V	400 ... 1100	0.02	$V_R = 5$ V, $R_L = 50$ Ω, $\lambda = 850$ nm	Q65110A2626	29
 SMT DIL	BP 104 SR	± 60	4.84	55 (≥ 40)	$E_v = 1000$ lx, Std. Light A, $V_R = 5$ V	2 (≤ 30)	$V_R = 10$ V	400 ... 1100	0.02	$V_R = 5$ V, $R_L = 50$ Ω, $\lambda = 850$ nm	Q65110A4262	30
 SMT DIL	BPW 34 S	± 60	7.02	80 (≥ 50)	$E_v = 1000$ lx, Std. Light A, $V_R = 5$ V	2 (≤ 30)	$V_R = 10$ V	400 ... 1100	0.02	$V_R = 5$ V, $R_L = 50$ Ω, $\lambda = 850$ nm	Q65110A1209	29
 SMT DIL RG	BPW 34 SR	± 60	7.02	80 (≥ 50)	$E_v = 1000$ lx, Std. Light A, $V_R = 5$ V	2 (≤ 30)	$V_R = 10$ V	400 ... 1100	0.02	$V_R = 5$ V, $R_L = 50$ Ω, $\lambda = 850$ nm	Q65110A2701	30
 SMT DIL	BPW 34 BS	± 60	7.45	75	$E_v = 1000$ lx, Std. Light A, $V_R = 5$ V	2 (≤ 30)	$V_R = 10$ V	350 ... 1100	0.025	$V_R = 5$ V, $R_L = 50$ Ω, $\lambda = 850$ nm	Q65110A2625	29
 Smart DIL	SFH 2400	± 60	1.00	10 (> 6)	$E_v = 1000$ lx, Std. Light A, $V_R = 5$ V	1 (≤ 5)	$V_R = 20$ V	400 ... 1100	0.005	$V_R = 20$ V, $R_L = 50$ Ω, $\lambda = 850$ nm	Q65110A2628	31
 T1 3/4 SMR	SFH 2505	± 15	1.00	100	$E_v = 1000$ lx, Std. Light A, $V_R = 5$ V	1 (≤ 5)	$V_R = 20$ V	400 ... 1100	0.005	$V_R = 20$ V, $R_L = 50$ Ω, $\lambda = 850$ nm	Q65110A1203	32
 CHIPLED	SFH 2701	± 60	0.36	1.4	$E_v = 1000$ lx, Std. Light A, $V_R = 5$ V	0.05 (≤ 5)	$V_R = 5$ V	400 ... 1050	0.002	$V_R = 5$ V, $R_L = 50$ Ω, $\lambda = 650$ nm, $I_p = 1$ mA	Q65110A2960	33








Silicon Photodetectors

Package	Type	Half angle $\varphi \pm$ [°]	Radiant sensitive area typ. [mm ²]	Measurement cond.		I_R [nA]	Measurement cond.	$\lambda_{10\%}$ typ. [nm]	Measurement cond.		Ordering Code	Package Fig.
				I_P [μA]					t_r, t_f typ [μs]			
 SMT DIL	BP 104 FS	± 60	4.84	34 (≥ 25)	λ = 950 nm, $E_e = 1$ mW/cm ² , $V_R = 5$ V	2 (≤ 30)	$V_R = 10$ V	800 ... 1100	0.02	$V_R = 5$ V, $R_L = 50$ Ω, λ = 850 nm	Q65110A2627	34
	BP 104 FAS				λ = 870 nm, $E_e = 1$ mW/cm ² , $V_R = 5$ V			730 ... 1100				
 SMT DIL RG	BP 104 FASR	± 60	4.84	34 (≥ 25)	λ = 870 nm, $E_e = 1$ mW/cm ² , $V_R = 5$ V	2 (≤ 30)	$V_R = 10$ V	730 ... 1100	0.02	$V_R = 5$ V, $R_L = 50$ Ω, λ = 850 nm	Q65110A4263	35
 SMT DIL	BPW 34 FS	± 60	7.02	50 (≥ 40)	λ = 950 nm, $E_e = 1$ mW/cm ² , $V_R = 5$ V	2 (≤ 30)	$V_R = 10$ V	780 ... 1100	0.02	$V_R = 5$ V, $R_L = 50$ Ω, λ = 850 nm	Q65110A2700	34
	BPW 34 FAS				λ = 870 nm, $E_e = 1$ mW/cm ² , $V_R = 5$ V			730 ... 1100				
 SMT DIL RG	BPW 34 FSR	± 60	7.02	50 (≥ 40)	λ = 950 nm, $E_e = 1$ mW/cm ² , $V_R = 5$ V	2 (≤ 30)	$V_R = 10$ V	780 ... 1100	0.02	$V_R = 5$ V, $R_L = 50$ Ω, λ = 850 nm	Q65110A2740	35
	BPW 34 FASR				λ = 870 nm, $E_e = 1$ mW/cm ² , $V_R = 5$ V			730 ... 1100				
 Smart DIL	SFH 2400 FA	± 60	1.00	6.2 (≥ 3.6)	λ = 870 nm, $E_e = 1$ mW/cm ² , $V_R = 5$ V	1 (≤ 5)	$V_R = 20$ V	750 ... 1100	0.005	$V_R = 20$ V, $R_L = 50$ Ω, λ = 850 nm	Q65110A2638	31
Smart DIL RG	SFH 2400 FAR	± 60	1.00	6.2 (≥ 3.6)	λ = 870 nm, $E_e = 1$ mW/cm ² , $V_R = 5$ V	1 (≤ 5)	$V_R = 20$ V	750 ... 1100	0.005	$V_R = 20$ V, $R_L = 50$ Ω, λ = 850 nm	Q65110A9563	99
 T1 3/4 SMR	SFH 2500 FA	± 15	1.00	70 (≥ 50)	λ = 870 nm, $E_e = 1$ mW/cm ² , $V_R = 5$ V	1 (≤ 5)	$V_R = 20$ V	750 ... 1100	0.005	$V_R = 20$ V, $R_L = 50$ Ω, λ = 850 nm	Q65110A1202	18
 T1 3/4 SMR	SFH 2505 FA	± 15	1.00	70 (≥ 50)	λ = 870 nm, $E_e = 1$ mW/cm ² , $V_R = 5$ V	1 (≤ 5)	$V_R = 20$ V	750 ... 1100	0.005	$V_R = 20$ V, $R_L = 50$ Ω, λ = 850 nm	Q65110A1204	32




Silicon Photodetectors

Package	Type	Half angle $\phi \pm$ [°]	Radiant sensitive area typ. [mm ²]	Measurement cond.		I_R [nA]	Measurement cond. V_R	$\lambda_{10\%}$ typ. [nm]	Measurement cond.		Ordering Code	Package Fig.
				I_P [μA]	Measurement cond. $E_v = 1000$ lx, Std. Light A, $V_R = 5$ V				t_r, t_f typ [μs]	Measurement cond. $V_R = 5$ V, $R_L = 50 \Omega$, $\lambda = 850$ nm		
 DIL	BPW 34	± 60	7.02	80 (≥ 50)	$E_v = 1000$ lx, Std. Light A, $V_R = 5$ V	2 (≤ 30)	$V_R = 10$ V	400 ... 1100	0.02	$V_R = 5$ V, $R_L = 50 \Omega$, $\lambda = 850$ nm	Q62702P0073	37
 DIL	BPW 34 B	± 60	7.45	75	$E_v = 1000$ lx, Std. Light A, $V_R = 5$ V	2 (≤ 30)	$V_R = 10$ V	350 ... 1100	0.025	$V_R = 5$ V, $R_L = 50 \Omega$, $\lambda = 850$ nm	Q65110A3126	37
 T 1	SFH 229	± 17	0.31	28 (≥ 18)	$E_v = 1000$ lx, Std. Light A, $V_R = 5$ V	0.05 (≤ 5)	$V_R = 10$ V	380 ... 1100	0.01	$V_R = 10$ V, $R_L = 50 \Omega$, $\lambda = 870$ nm	Q62702P0215	13
 T 1 3/4	SFH 203	± 20	1.00	80 (≥ 50)	$E_v = 1000$ lx, Std. Light A, $V_R = 5$ V	1 (≤ 5)	$V_R = 20$ V	400 ... 1100	0.005	$V_R = 20$ V, $R_L = 50 \Omega$, $\lambda = 850$ nm	Q62702P0955	39
 T 1 3/4	SFH 213	± 10	1.00	135 (≥ 100)	$E_v = 1000$ lx, Std. Light A, $V_R = 5$ V	1 (≤ 5)	$V_R = 20$ V	400 ... 1100	0.005	$V_R = 20$ V, $R_L = 50 \Omega$, $\lambda = 850$ nm	Q62702P0930	20
 T 1 3/4	SFH 203 P	± 75	1.00	9.5 (≥ 5)	$E_v = 1000$ lx, Std. Light A, $V_R = 5$ V	1 (≤ 5)	$V_R = 20$ V	400 ... 1100	0.005	$V_R = 20$ V, $R_L = 50 \Omega$, $\lambda = 850$ nm	Q62702P0942	40
 Sidelooker	SFH 206 K	± 60	7.02	80 (≥ 50)	$E_v = 1000$ lx, Std. Light A, $V_R = 5$ V	2 (≤ 30)	$V_R = 10$ V	400 ... 1100	0.02	$V_R = 5$ V, $R_L = 50 \Omega$, $\lambda = 850$ nm	Q62702P0129	38

Silicon Photodetectors

Package	Type	Half angle $\varphi \pm$ [°]	Radiant sensitive area typ. [mm ²]	Measurement cond.		$\lambda_{10\%}$ typ. [nm]	Measurement cond.		Ordering Code	Package Fig.		
				I_P [μA]	I_R [nA]		t_r, t_f typ [μs]					
 DIL	BPW 34 FA	± 60	7.02	50 (≥ 40)	$\lambda = 870$ nm, $E_e = 1$ mW/cm ² , $V_R = 5$ V	2 (≤ 30)	$V_R = 10$ V	730 ... 1100	0.02	$V_R = 5$ V, $R_L = 50$ Ω, $\lambda = 850$ nm	Q62702P1129	41
 TO92	SFH 225 FA	± 60	4.84	34 (≥ 25)	$\lambda = 870$ nm, $E_e = 1$ mW/cm ² , $V_R = 5$ V	2 (≤ 30)	$V_R = 10$ V	740 ... 1120	0.02	$V_R = 5$ V, $R_L = 50$ Ω, $\lambda = 850$ nm	Q62702P1051	42
 TO92	SFH 235 FA	± 65	7.02	50 (≥ 40)	$\lambda = 870$ nm, $E_e = 1$ mW/cm ² , $V_R = 5$ V	2 (≤ 30)	$V_R = 10$ V	740 ... 1120	0.02	$V_R = 5$ V, $R_L = 50$ Ω, $\lambda = 850$ nm	Q62702P0273	42
 T 1	SFH 229 FA	± 17	0.31	20 (≥ 10.8)	$\lambda = 870$ nm, $E_e = 1$ mW/cm ² , $V_R = 5$ V	0.05 (≤ 5)	$V_R = 10$ V	730 ... 1100	0.01	$V_R = 10$ V, $R_L = 50$ Ω, $\lambda = 850$ nm	Q62702P0216	13
 T 1 3/4	SFH 203 FA	± 20	1.00	50 (≥ 30)	$\lambda = 870$ nm, $E_e = 1$ mW/cm ² , $V_R = 5$ V	1 (≤ 5)	$V_R = 20$ V	800 ... 1100	0.005	$V_R = 20$ V, $R_L = 50$ Ω, $\lambda = 850$ nm	Q62702P0956	39
 T 1 3/4	SFH 213 FA	± 10	1.00	90 (≥ 65)	$\lambda = 870$ nm, $E_e = 1$ mW/cm ² , $V_R = 5$ V	1 (≤ 5)	$V_R = 20$ V	750 ... 1100	0.005	$V_R = 20$ V, $R_L = 50$ Ω, $\lambda = 850$ nm	Q62702P1671	20
 T 1 3/4	SFH 203 PFA	± 75	1.00	6.2 (≥ 3.6)	$\lambda = 870$ nm, $E_e = 1$ mW/cm ² , $V_R = 5$ V	1 (≤ 5)	$V_R = 20$ V	750 ... 1100	0.005	$V_R = 20$ V, $R_L = 50$ Ω, $\lambda = 850$ nm	Q62702P0947	40
 Sidelooker	SFH 205 FA	± 60	7.02	60 (≥ 45)	$\lambda = 870$ nm, $E_e = 1$ mW/cm ² , $V_R = 5$ V	2 (≤ 30)	$V_R = 10$ V	740 ... 1100	0.02	$V_R = 5$ V, $R_L = 50$ Ω, $\lambda = 850$ nm	Q62702P1677	43

Silicon Photodetectors




Package	Type	Half angle $\varphi \pm$ [°]	Radiant sensitive area typ. [mm ²]	Measurement cond.		$\lambda_{10\%}$ typ. [nm]	Measurement cond.		Ordering Code	Package Fig.		
				I_P [μA]	I_R [nA]		t_r, t_f typ [μs]					
PIN Photodiodes with daylight blocking filter matched for 950 nm IRED												
 DIL	BP 104 F	± 60	4.84	34 (≥ 25)	$\lambda = 950$ nm, $E_e = 1$ mW/cm ² , $V_R = 5$ V	2 (≤ 30)	$V_R = 10$ V	800 ... 1100	0.02	$V_R = 5$ V, $R_L = 50$ Ω, $\lambda = 850$ nm	Q62702P0084	41
 DIL	BPW 34 F	± 60	7.02	50 (≥ 40)	$\lambda = 950$ nm, $E_e = 1$ mW/cm ² , $V_R = 5$ V	2 (≤ 30)	$V_R = 10$ V	780 ... 1100	0.02	$V_R = 5$ V, $R_L = 50$ Ω, $\lambda = 850$ nm	Q62702P0929	41
 Sidelooker	SFH 205 F	± 60	7.02	60 (≥ 45)	$\lambda = 950$ nm, $E_e = 1$ mW/cm ² , $V_R = 5$ V	2 (≤ 30)	$V_R = 10$ V	800 ... 1100	0.02	$V_R = 5$ V, $R_L = 50$ Ω, $\lambda = 850$ nm	Q62702P0102	43

Silicon Photodetectors

Ambient Light Sensors




Package	Type	Half angle φ [°]	Radiant sensitive area typ. [mm ²]	Measurement cond.		Measurement cond.		$\lambda_{10\%}$ typ. [nm]	Ordering Code	Package Fig.
				I_P [μA]		I_R [nA]				

Photodiode Ambient Light Sensors

 TO39	BPW 21	± 55	7.45	10 (≥ 5.5)	$E_V = 1000$ lx, Std. Light A, $V_R = 5$ V	2 (≤ 30)	$V_R = 5$ V	350 ... 820	Q62702P0885	45
 SMT DIL	SFH 2430	± 60	7.02	6.3 (≥ 5)	$E_V = 1000$ lx, Std. Light A, $V_R = 5$ V	0.1 (≤ 5)	$V_R = 5$ V	400 ... 900	Q65110A2673	51
 TOPLED RG	SFH 2270 R	± 60	0.16	0.0056 (≥ 0.0044)	$E_e = 10$ μW/cm ² , $\lambda = 560$ nm, $V_R = 1$ V	0.005 (≤ 0.15)	$V_R = 1$ V	480 ... 650	Q65110A9911	104

Package	Type	Half angle φ [°]	Radiant sensitive area typ. [mm ²]	Measurement cond.		V_{CE} max. [V]	$\lambda_{10\%}$ typ. [nm]	Ordering Code	Package Fig.
				I_{PCE} [μA]					


Phototransistor Ambient Light Sensors

 T 1	SFH 3310	± 75	0.29	2.5 ... 8	$\lambda = 560$ nm, $E_e = 10$ μW/cm ² , $V_{CE} = 5$ V	5.5	350 ... 970	Q65110A5343	15
 Smart DIL	SFH 3410	± 60	0.29	3.2 ... 25	$E_V = 20$ lx, Std. Light A, $V_{CE} = 5$ V	5.5	350 ... 970	Q65110A1211	52
	SFH 3410-1/2			3.2 ... 10				Q65110A2653	
	SFH 3410-2/3			5 ... 16				Q65110A2654	
	SFH 3410-3/4			8 ... 25				Q65110A2655	
 CHIPLED	SFH 3710	± 60	0.29	2.5 ... 12.5	$\lambda = 560$ nm, $E_e = 10$ μW/cm ² , $V_{CE} = 5$ V	5.5	350 ... 950	Q65110A3107	53
	SFH 3710-2/3			2.5 ... 8				Q65110A3512	
	SFH 3710-3/4			4 ... 12.5				Q65110A3511	

Silicon Photodetectors


Package	Type	Half angle φ [°]	Radiant sensitive area typ. [mm ²]	I_{OUT}	Measurement Conditions	$\lambda_{10\%}$ typ. [nm]	Ordering Code	Package Fig.
				[mA]				

High Accuracy Ambient Light Sensors




 CHIPLED	SFH 5711-2/3	± 60	0.16	0.027 ... 0.032	$E_V = 1000\text{lx}$ Std. Light A	475 ... 650	Q65110A4513	54
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Package	Type	Half angle φ [°]	Radiant sensitive area typ. [mm ²]	digital out Out	Measurement conditions	$\lambda_{20\%}$ typ. [nm]	Ordering Code	Package Fig.
				[counts]				

Ambient Light Sensors with I²C bus interface

 CHIPLED	SFH 5712-2/3	± 60	0.16	500 ... 1600	$E_V = 1000\text{ lx}$ (white LED)	400 ... 680	Q65110A8485	105
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Photodetectors for special applications

Package	Type	Half angle φ [°]	Radiant sensitive area typ. [mm ²]	I_{PCE}	Measurement cond.	V_{CE} max. [V]	$\lambda_{10\%}$ typ. [nm]	t_r, t_f typ [μs]	Ordering Code	Package Fig.
				[mA]						
Phototransistor Arrays in plastic package										
 Mini Array	SFH 305	± 16	0.11	0.25 ... 1.25	$\lambda = 950 \text{ nm}, E_e = 0.5 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	450 ... 1100	6	Q62702P0836	23
	SFH 305-2/3			0.25 ... 0.8					Q62702P3589	
 Mini Array	BPX 81	± 18	0.11	≥ 0.25	$\lambda = 950 \text{ nm}, E_e = 0.5 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	450 ... 1100	7	Q62702P0020	24
	BPX 81-2/3			0.25 ... 0.8					Q62702P3583	
	BPX 81-3			0.4 ... 0.8					Q62702P0043S003	
	BPX 81-3/4			≥ 0.4					Q62702P3584	
	BPX 81-4			≥ 0.63					Q62702P0043S004	
 Array	BPX 80	± 18	0.11	≥ 0.32	$\lambda = 950 \text{ nm}, E_e = 0.5 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	450 ... 1100	6	Q62702P0028	25
	BPX 82								Q62702P0021	
	BPX 83								Q62702P0025	
	BPX 84								Q62702P0030	
	BPX 85								Q62702P0031	
	BPX 86								Q62702P0022	
	BPX 87								Q62702P0032	
	BPX 88								Q62702P0033	
	BPX 89								Q62702P0026	

Silicon Photodetectors



Package	Type	Half angle φ [°]	Radiant sensitive area typ. [mm ²]	Measurement cond.		V_{CE} max. [V]	$\lambda_{10\%}$ typ. [nm]	t_r, t_f typ [μs]	Ordering Code	Package Fig.
				I_{PCE} [mA]						

Phototransistors in metal package

 TO18	BPY 62	± 8	0.11	0.5 ... 4	$\lambda = 950 \text{ nm}, E_e = 0.5 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	400 ... 1100	8	Q60215Y0062	26
	BPY 62-3/4			0.8 ... 2.5					Q62702P5198	
	BPY 62-4			1.25 ... 2.5					Q60215Y1113	
 TO18	BPX 43	± 15	0.675	≥ 0.8	$\lambda = 950 \text{ nm}, E_e = 0.5 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	50	450 ... 1100	14	Q62702P0016	26
	BPX 43-3/4			1.25 ... 4					Q62702P3581	
	BPX 43-4			2 ... 4				Q62702P0016S004		
	BPX 43-4/5			≥ 2				Q62702P3582		
	BPX 43-5			≥ 3.2				Q62702P0016S005		
 TO18	BPX 38	± 40	0.675	≥ 0.2	$\lambda = 950 \text{ nm}, E_e = 0.5 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	50	450 ... 1120	12	Q62702P0015	27
	BPX 38-2/3			0.2 ... 0.63				11	Q62702P3578	
	BPX 38-3			0.32 ... 0.63				12	Q62702P0015S003	
	BPX 38-4			0.5 ... 1				15	Q62702P0015S004	
 TO18	BP 103	± 55	0.11	≥ 0.08	$\lambda = 950 \text{ nm}, E_e = 0.5 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	450 ... 1100	8	Q62702P0075	28
	BP 103-3/4			0.125 ... 0.4					Q62702P3577	

Package	Type	Half angle $\varphi \pm$ [°]	Radiant sensitive area typ. [mm ²]	Measurement cond.		$\lambda_{10\%}$ typ. [nm]	t_r, t_f typ [μs]		Ordering Code	Package Fig.
				I_p [μA]	Measurement cond. [nA]		Measurement cond.	Measurement cond.		




PIN photodiodes in metal package


 TO18	BPX 65	± 40	1.00	10 (≥ 5.5)	$E_v = 1000 \text{ lx, Std. Light A}, V_R = 5 \text{ V}$	1 (≤ 5)	$V_R = 20 \text{ V}$	350 ... 1100	0.012	$V_R = 5 \text{ V}, R_L = 50 \Omega, \lambda = 850 \text{ nm}$	Q62702P0027	44
 TO39	BPX 61	± 55	7.02	70 (≥ 50)	$E_v = 1000 \text{ lx, Std. Light A}, V_R = 5 \text{ V}$	2 (≤ 30)	$V_R = 10 \text{ V}$	400 ... 1100	0.02	$V_R = 5 \text{ V}, R_L = 50 \Omega, \lambda = 850 \text{ nm}$	Q62705P0025	45

Silicon Photodetectors

Package	Type	Half angle φ [°]	V_{CC} [V]	E_e typ	Measurement cond.	$\lambda_{10\%}$ typ. [nm]	I_{OUT} max [mA]	t_{PLH} [μs]	Ordering Code	Package Fig.
				[mW/m ²]						



Schmitt Trigger

 Smart DIL	SFH 5440	± 60	4 ... 18	+1700 (≤ +3200)	$V_{CC} = 5V, \lambda = 950 \text{ nm}$	400 ... 1100	16	5 (≤ 15)	Q65110A1212	46
 Mini Sidelooker	SFH 5140 F	± 12	4 ... 18	+150 (≤ +500)	$V_{CC} = 5V, \lambda = 950 \text{ nm}$	840 ... 1080	16	5 (≤ 15)	Q62702P5112	47
 TO18	SFH 5840	± 5	4 ... 18	+100 (≤ +320)	$V_{CC} = 5V, \lambda = 950 \text{ nm}$	400 ... 1100	16	5 (≤ 15)	Q62702P5116	48




Package	Type	Features	V_{CC} [V]	$I_{F,on}$	Measurement cond.	$E_{e,off} / E_{e,on}$ [-]	Ordering Code	Package Fig.
				[mA]				
 SMT RLS	SFH 9240	Schmitt Trigger Output, active "low"	4 ... 18	3 (≤ 10)	Kodak neutral white testcard with 90% reflection; $V_{CC} = 5 V, d = 1 \text{ mm}$	0.6 (0.5 ... 0.9)	Q65110A2714	57

Package	Type	Half angle φ [°]	Radiant sensitive area typ. [mm ²]	I_P	Measurement cond.	I_R	Measurement cond.	$\lambda_{10\%}$ typ. [nm]	t_r, t_f typ	Measurement cond.	Ordering Code	Package Fig.
				[μA]					[nA]			

Blue sensitive photodiode

 SMT DIL	BPW 34 BS	± 60	7.45	14.8 (≥ 10.8)	$\lambda = 400 \text{ nm}, E_e = 1 \text{ mW/cm}^2, V_R = 5 V$	2 (≤ 30)	$V_R = 10 V$	350 ... 1100	0.025	$V_R = 5 V, R_L = 50 \Omega, \lambda = 850 \text{ nm}$	Q65110A2625	29
 DIL	BPW 34 B	± 60	7.45	14.8 (≥ 10.8)	$\lambda = 400 \text{ nm}, E_e = 1 \text{ mW/cm}^2, V_R = 5 V$	2 (≤ 30)	$V_R = 10 V$	350 ... 1100	0.025	$V_R = 5 V, R_L = 50 \Omega, \lambda = 850 \text{ nm}$	Q65110A3126	37

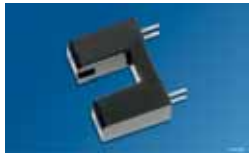
Silicon Photodetectors

Package	Type	Half angle φ [°]	Radiant sensitive area typ. [mm ²]	Measurement cond.		$\lambda_{10\%}$ typ. [nm]	Measurement cond.		Ordering Code	Package Fig.		
				I_p [μA]	I_R [nA]		t_r, t_f typ [μs]					
Dual photodiodes												
 TO39	SFH 221	± 55	1.54	24 (≥ 15)	$E_v = 1000$ lx, Std. Light A, $V_R = 5$ V	10 (≤ 100)	$V_R = 10$ V	400 ... 1100	0.5	$V_R = 5$ V, $R_L = 1$ kΩ, $\lambda = 850$ nm	Q62702P0270	49
 DIL	BPX 48	± 60	1.54	24 (≥ 15)	$E_v = 1000$ lx, Std. Light A, $V_R = 5$ V	10 (≤ 100)	$V_R = 10$ V	400 ... 1150	0.5	$V_R = 5$ V, $R_L = 1$ kΩ, $\lambda = 850$ nm	Q62702P0017S001	50
 SMT DIL	KOM 2125	± 60	4 diode A 10 diode B	40 (≥ 30) diode A 40 (≥ 30) diode B	$E_v = 1000$ lx, Std. Light A, $V_R = 5$ V	5 (≤ 30) diode A 10 (≤ 30) diode B	$V_R = 10$ V	400 ... 1100	0.018	$V_R = 5$ V, $R_L = 50$ Ω, $\lambda = 850$ nm	Q65110A2703	36

Optical Sensors

Summary of Types

Slotted Interrupters



Interrupter
SFH 9315
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Interrupter
SFH 9500
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SMT Reflective Sensors



SMT RLS
SFH 9201 / SFH 9202
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SMT Proximity Sensor





COB
SFH 7740 / SFH 7741 / SFH 7743
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Optical Sensors

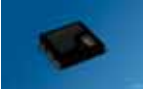
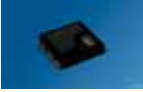
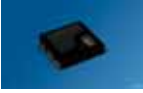
Slotted Interrupters

Package	Type	Features	Slot Width [mm]	Aperture slit width on emitter / sensor side typ [mm]	I_{PCE} min	Measurement cond.	I_{CE0}	Measurement cond.	Ordering Code	Package Fig.
					[μ A]		[nA]			
 Interrupter	SFH 9315	horizontal slits	5	0.5 / 0.5	700	$I_F = 20$ mA, $V_{CE} = 5$ V	2 (≤ 50)	$V_{CE} = 20$ V, $E = 0$	Q65110A1216	55
 Interrupter	SFH 9500	with vertical aperture slits, SMT version, suitable for reflow soldering, locating pins	5	0.5 / 0.5	1000	$I_F = 20$ mA, $V_{CE} = 5$ V	2 (≤ 50)	$V_{CE} = 20$ V	Q65110A3108	56

SMT Reflective Sensors

Package	Type	I_{PCE}	Measurement cond.	I_{CE0}	Measurement cond.	V_{CE} max.	V_F	Measurement cond.	Ordering Code	Package Fig.
		[μ A]		[nA]		[V]	[V]			
 SMT RLS	SFH 9201	250 ... 2000	Kodak neutral white testcard with 90% reflection; $I_F = 10$ mA, $V_{CE} = 5$ V, $d = 1$ mm	3 (≤ 200)	$V_{CE} = 20$ V, $E = 0$	16	1.25 (≤ 1.65)	$I_F = 50$ mA	Q65110A2708	57
	SFH 9201-2/3	400 ... 1250							Q65110A2698	
	SFH 9201-3/4	630 ... 2000							Q65110A2716	
 SMT RLS	SFH 9202	63 ... 800	Kodak neutral white testcard with 90% reflection; $I_F = 10$ mA, $V_{CE} = 5$ V, $d = 1$ mm	5 (≤ 50)	$V_{CE} = 20$ V	16	1.25 (≤ 1.65)	$I_F = 50$ mA	Q65110A2712	57
	SFH 9202-2/3	63 ... 200							Q65110A2705	
	SFH 9202-3/4	100 ... 320							Q65110A2710	
	SFH 9202-4/5	160 ... 500							Q65110A2709	
	SFH 9202-5/6	250 ... 800							Q65110A2711	

SMT Proximity Sensor

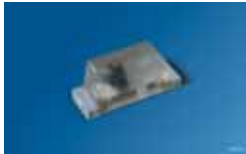
Package	Type	Working distance typ [mm]	V _{dd} [V]	max. Sink Current [mA]	Ordering Code	Package Fig.
 COB	SFH 7740	0.5 ... 4	2.3 ... 3.6	10	Q65110A6668	58
 COB	SFH 7741	0.5 ... 20	2.3 ... 3.6	10	Q65110A7073	58
 COB	SFH 7743	0.5 ... 150	2.3 ... 3.6	10	Q65110A8870	58

Infrared Emitters

Summary of Types

Standard Emitters (< 40 mW)

SMT Emitters



SmartLED 0603
SFH 4010
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CHIPLED with lens
SFH 4058
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TOPLED
SFH 420 / SFH 421 / SFH 4211 / SFH 4243 / SFH 4283 / SFH 4253
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TOPLED RG
SFH 4281
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TOPLED RG
SFH 4257 R
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TOPLED
SFH 4257 / SFH 4271
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Mini TOPLED
SFH 4247
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SIDELED
SFH 425 / SFH 426 / SFH 4244
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MIDLED
SFH 4680 / SFH 4641 / SFH 4651
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MIDLED
SFH 4685 / SFH 4646 / SFH 4656
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SMR
SFH 4510
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SMR
SFH 4515
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SMR
SFH 4580
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SMR
SFH 4585
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Emitters in plastic package



T 1
SFH 487
Page / Seite: 146



T 1
SFH 487 P
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T 1
SFH 409
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T 1 3/4
SFH 484 / SFH 485 / SFH 486
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Infrared Emitters

Summary of Types

Standard Emitters (< 40 mW)



T 1 3/4
SFH 485 P
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T 1 3/4
LD 274
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T 1 3/4
LD 271
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T 1 3/4
SFH 415 / SFH 4511
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Sidelooker
IRL 80 A / IRL 81 A
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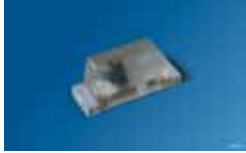
Sidelooker
SFH 4110
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Infrared Emitters

Summary of Types

Power Emitters (> 40 mW)

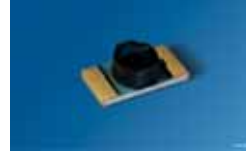
SMT Emitters



SmartLED 0603
SFH 4050
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CHIPLED with lens
SFH 4045
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CHIPLED with lens
SFH 4056
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CHIPLED with lens
SFH 4059
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MIDLED
SFH 4640 / SFH 4650
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MIDLED
SFH 4645 / SFH 4655
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TOPLED
SFH 4240
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Power TOPLED
SFH 4250
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SIDELED
SFH 4255
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PowerTOPLED w. Lens
SFH 4248 / SFH 4249 / SFH 4258 /
SFH 4259
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SMR
SFH 4542
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SMR
SFH 4543
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Emitters in plastic package



T 1
SFH 4350
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T 1 3/4
SFH 4550
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T 1 3/4
SFH 4555
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T 1 3/4
SFH 4556 / SFH 4546
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T 1
SFH 4341
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T 1 3/4
SFH 4545 / SFH 4555
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Infrared Emitters

Summary of Types

High Power Emitters (> 500 mW)

SMT Emitters



Golden DRAGON
SFH 4231
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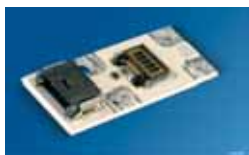
Platinum DRAGON
SFH 4232 / SFH 4235
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DRAGON with lens
SFH 4236
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OSTAR Lighting
SFH 4750 / SFH 4751
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OSTAR Observation
SFH 4730
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OSTAR Observation
SFH 4740
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Summary of Types

Emitters for special applications



Multi TOPLED
SFH 331 / SFH 7222 / SFH 7221 /
SFH 7225
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Array
LD 261
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Array
LD 260 / LD 262-269
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Array
SFH 405
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TO18
SFH 4850 E7800
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TO18
SFH 464 / SFH 483 / LD 242
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TO18
SFH 4860
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TO18
SFH 400 / SFH 480
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TO18
SFH 482
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TO18
SFH 4881 / SFH 4811
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TO18
SFH 4883 / SFH 4813
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TO18
SFH 401
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Infrared Emitters




Standard Emitters (< 40 mW)

Package	Type	λ_{peak} typ [nm]	Half angle φ [°]	Measurement cond.			V_F [V]	Measurement cond.	t_r, t_f typ [ns]	Ordering Code	Package Fig.
				Φ_e typ [mW]	I_e [mW/sr]						
 SmartLED 0603	SFH 4010	950	± 80	20	$2.5 (\geq 1)$	$I_F=100 \text{ mA}, t_p=20 \text{ ms}$	$1.3 (\leq 1.5)$	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	500	Q65110A6459	1
 CHIPLED with lens	SFH 4058	860	± 40	33	$15 (\geq 6.3)$	$I_F=70 \text{ mA}, t_p=20 \text{ ms}$	$1.6 (\leq 2)$	$I_F = 70 \text{ mA}, t_p = 20 \text{ ms}$	10	Q65110A9218	101
 TOPLED	SFH 420	950	± 60	14	$5 (\geq 2.5)$	$I_F=100 \text{ mA}, t_p=20 \text{ ms}$	$1.3 (\leq 1.5)$	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	500	Q65110A2473	62
 TOPLED	SFH 421	880	± 60	23	$7 (\geq 4)$	$I_F=100 \text{ mA}, t_p=20 \text{ ms}$	$1.5 (\leq 1.8)$	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	500	Q65110A1218	62
 TOPLED	SFH 4211	950	± 60	20	$6 (\geq 2.5)$	$I_F=100 \text{ mA}, t_p=20 \text{ ms}$	$1.3 (\leq 1.5)$	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	500	Q65110A2515	62
 TOPLED	SFH 4243	950	± 60	33	$11 (\geq 4)$	$I_F = 70 \text{ mA}, t_p = 20 \text{ ms}$	$1.6 (\leq 2)$	$I_F = 70 \text{ mA}, t_p = 20 \text{ ms}$	11	Q65110A7515	67
 TOPLED	SFH 4283	880	± 60	23	$7 (\geq 4)$	$I_F=100 \text{ mA}, t_p=20 \text{ ms}$	$1.5 (\leq 1.8)$	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	600	Q65110A2517	65
 TOPLED	SFH 4253	860	± 60	35	$11 (\geq 4)$	$I_F = 70 \text{ mA}, t_p = 20 \text{ ms}$	$1.6 (\leq 2)$	$I_F = 70 \text{ mA}, t_p = 20 \text{ ms}$	10	Q65110A6657	67
 TOPLED RG	SFH 4281	880	± 60	23	$6 (4 \dots 12.5)$	$I_F=100 \text{ mA}, t_p=20 \text{ ms}$	$1.5 (\leq 1.8)$	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	500	Q65110A2516	63










Infrared Emitters

Package	Type	λ_{peak} typ [nm]	Half angle φ [°]	Measurement cond.			V_F [V]	Measurement cond.	t_r, t_f typ [ns]	Ordering Code	Package Fig.
				Φ_e typ [mW]	I_e [mW/sr]						
 TOPLED RG	SFH 4257 R	860	± 60	24	12 (≥ 6.3)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	12	Q65110A8706	103
 TOPLED	SFH 4257	860	± 60	18	7 (6.3 ... 12.5)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	12	Q65110A2466	65
	SFH 4271	880		5	1 ... 3.2				500	Q65110A2521	
 Mini TOPLED	SFH 4247	950	± 65	33	8 (≥ 4)	$I_F = 70$ mA, $t_p = 20$ ms	1.5 (≤ 1.9)	$I_F = 70$ mA, $t_p = 20$ ms	11	Q65110A8091	66
 SIDELED	SFH 425	950	± 60	14	5 (≥ 2.5)	$I_F=100$ mA, $t_p=20$ ms	1.3 (≤ 1.5)	$I_F = 100$ mA, $t_p = 20$ ms	500	Q65110A2463	70
 SIDELED	SFH 426	880	± 60	23	7 (≥ 4)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	500	Q65110A2512	70
 SIDELED	SFH 4244	950	± 60	33	11 (≥ 4)	$I_F = 70$ mA, $t_p = 20$ ms	1.6 (≤ 2)	$I_F = 70$ mA, $t_p = 20$ ms	11	Q65110A7516	71
 MIDLED	SFH 4680	880	± 20	23	20 (≥ 10)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	500	Q65110A1570	10
	SFH 4641	950	± 15	33	40 (≥ 16)	$I_F = 70$ mA, $t_p = 20$ ms	1.6 (≤ 2)	$I_F = 70$ mA, $t_p = 20$ ms	11	Q65110A8098	
	SFH 4651	860						$I_F = 50$ mA, $t_p = 20$ ms	10	Q65110A8396	
 MIDLED	SFH 4685	880	± 20	23	20 (≥ 10)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	500	Q65110A1571	10
	SFH 4646	950	± 15	33	40 (≥ 16)	$I_F = 70$ mA, $t_p = 20$ ms	1.6 (≤ 2)	$I_F = 70$ mA, $t_p = 20$ ms	11	Q65110A8099	
	SFH 4656	860						$I_F = 50$ mA, $t_p = 20$ ms	10	Q65110A8395	
 T1 3/4 SMR	SFH 4510	950	± 14	22	50 (≥ 25)	$I_F=100$ mA, $t_p=20$ ms	1.3 (≤ 1.5)	$I_F = 100$ mA, $t_p = 20$ ms	500	Q65110A2630	18







Infrared Emitters

Package	Type	λ_{peak} typ	Half angle φ	Measurement			Measurement		t_r, t_f typ	Ordering Code	Package Fig.
				Φ_e typ	I_e	cond.	V_F	cond.			
		[nm]	[°]	[mW]	[mW/sr]		[V]		[ns]		
 T1 3/4 SMR	SFH 4515	950	± 14	22	50 (≥ 25)	$I_F=100 \text{ mA},$ $t_p=20 \text{ ms}$	1.3 (≤ 1.5)	$I_F = 100$ $\text{mA}, t_p = 20$ ms	500	Q65110A2633	32
 T1 3/4 SMR	SFH 4580	880	± 15	25	55 (≥ 25)	$I_F=100 \text{ mA},$ $t_p=20 \text{ ms}$	1.5 (≤ 1.8)	$I_F = 100$ $\text{mA}, t_p = 20$ ms	600	Q65110A2632	73
 T1 3/4 SMR	SFH 4585	880	± 15	25	55 (≥ 25)	$I_F=100 \text{ mA},$ $t_p=20 \text{ ms}$	1.5 (≤ 1.8)	$I_F = 100$ $\text{mA}, t_p = 20$ ms	600	Q65110A2631	74

Infrared Emitters


Package	Type	$\lambda_{\text{peak typ}}$ [nm]	Half angle φ [°]	Φ_e typ		Measurement cond.	V_F [V]	Measurement cond.	t_r, t_f typ [ns]	Ordering Code	Package Fig.
				[mW]	[mW/sr]						
 T 1	SFH 487	880	± 20	25	≥ 12.5	$I_F=100 \text{ mA}, t_p=20 \text{ ms}$	$1.5 (\leq 1.8)$	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	600	Q62703Q1095	80
	SFH 487-2				40 (20 ... 80)					Q62703Q2174	
	SFH 487-3				60 (31 ... 125)					Q62703Q2175	
 T 1	SFH 487 P	880	± 65	25	$4 (\geq 2)$	$I_F=100 \text{ mA}, t_p=20 \text{ ms}$	$1.5 (\leq 1.8)$	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	600	Q62703Q0517	86
 T 1	SFH 409	950	± 20	15	≥ 6.3	$I_F=100 \text{ mA}, t_p=20 \text{ ms}$	$1.3 (\leq 1.5)$	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	500	Q62702P0860	89
	SFH 409-2				$17 (\geq 10)$					Q62702P1002	
 T 1 3/4	SFH 484	880	± 8	25	$100 (\geq 50)$	$I_F=100 \text{ mA}, t_p=20 \text{ ms}$	$1.5 (\leq 1.8)$	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	600	Q62703Q1092	78
	SFH 484-2				≥ 80					Q62703Q1756	
 T 1 3/4	SFH 486	880	± 11	25	$70 (\geq 40)$	$I_F=100 \text{ mA}, t_p=20 \text{ ms}$	$1.5 (\leq 1.8)$	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	600	Q62703Q1094	83
 T 1 3/4	SFH 485	880	± 20	25	$40 (25 \dots 160)$	$I_F=100 \text{ mA}, t_p=20 \text{ ms}$	$1.5 (\leq 1.8)$	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	600	Q62703Q1093	84
	SFH 485-2				$25 \dots 100$					Q62703Q1547	
 T 1 3/4	SFH 485 P	880	± 40	25	$5 (\geq 3.15)$	$I_F=100 \text{ mA}, t_p=20 \text{ ms}$	$1.5 (\leq 1.8)$	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	600	Q62703Q0516	85
 T 1 3/4	LD 274	950	± 10	15	$90 (\geq 50)$	$I_F=100 \text{ mA}, t_p=20 \text{ ms}$	$1.3 (\leq 1.5)$	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	500	Q62703Q1031	87
	LD 274-3				≥ 80					Q62703Q1820	
 T 1 3/4	LD 271	950	± 25	18	$15 (\geq 10)$	$I_F=100 \text{ mA}, t_p=20 \text{ ms}$	$1.3 (\leq 1.5)$	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	1000	Q62703Q0148	88
	LD 271 H				$24 (\geq 16)$					Q62703Q0256	

Infrared Emitters






Package	Type	$\lambda_{\text{peak typ}}$ [nm]	Half angle φ [°]	Measurement cond.			V_F [V]	Measurement cond. $I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	$t_r, t_f \text{ typ}$ [ns]	Ordering Code	Package Fig.
				$\Phi_e \text{ typ}$ [mW]	I_e [mW/sr]						
 T 1 3/4	LD 271 L	950	± 25	18	15 (≥ 10)	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	1.3 (≤ 1.5)	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	1000	Q62703Q0833	39
	LD 271 LH				24 (≥ 16)					Q62703Q0838	
 T 1 3/4	SFH 415	950	± 17	22	45 (≥ 25)	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	1.3 (≤ 1.5)	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	500	Q62702P0296	39
	SFH 415 U				≥ 40					Q62702P1137	
 T 1 3/4	SFH 4511	950	± 4	22	150 (≥ 63)	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	1.3 (≤ 1.5)	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	500	Q62702P5557	87
 Sidelooker	IRL 81A	880	± 25	5	2.5 (≥ 1)	$I_F = 20 \text{ mA}, t_p = 20 \text{ ms}$	1.5 (≤ 2)	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	600	Q68000A8000	90
 Sidelooker	IRL 80A	950	± 30	3.5	2.5 (≥ 0.4)	$I_F = 20 \text{ mA}, t_p = 20 \text{ ms}$	1.2 (≤ 1.5)	$I_F = 20 \text{ mA}$	500	Q68000A7851	90
 Sidelooker	SFH 4110	950	± 9	2	4.7 (≥ 2.5)	$I_F = 20 \text{ mA}, t_p = 20 \text{ ms}$	1.2 (≤ 1.4)	$I_F = 20 \text{ mA}, t_p = 20 \text{ ms}$	450	Q62702P5072	22

Infrared Emitters








Power Emitters (> 40 mW)

Package	Type	λ_{peak} typ [nm]	Half angle φ [°]	Measurement cond.			V_F [V]	Measurement cond.	t_r, t_f typ [ns]	Ordering Code	Package Fig.
				Φ_e typ [mW]	I_e [mW/sr]	Measurement cond.					
 SmartLED 0603	SFH 4050	860	± 80	50	7 (≥ 4)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	12	Q65110A6460	61
 CHIPLED with lens	SFH 4045	950	± 9	40	90 (≥ 40)	$I_F=70$ mA, $t_p=20$ ms	1.6 (≤ 2)	$I_F = 70$ mA, $t_p = 20$ ms	12	Q65110A9731	98
 CHIPLED with lens	SFH 4056	860	± 22	40	35 (≥ 16)	$I_F=70$ mA, $t_p=20$ ms	1.6 (≤ 2)	$I_F = 70$ mA, $t_p = 20$ ms	12	Q65110A9942	100
 CHIPLED with lens	SFH 4059	860	± 10	40	120 (≥ 63)	$I_F=70$ mA, $t_p=20$ ms	1.6 (≤ 2)	$I_F = 70$ mA, $t_p = 20$ ms	12	Q65111A0020	106
 MIDLED	SFH 4640	950	± 15	45	60 (≥ 25)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	11	Q65110A7060	10
	SFH 4650	860		40	50 (≥ 16)				12	Q65110A1572	
 MIDLED	SFH 4645	950	± 15	45	60 (≥ 25)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	11	Q65110A9367	10
	SFH 4655	860		40	50 (≥ 16)				12	Q65110A1569	
 TOPLED	SFH 4240	950	± 60	45	15 (≥ 10)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	11	Q65110A7513	102
 Power TOPLED	SFH 4250	860	± 60	40	15 (≥ 10)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	12	Q65110A2465	64
 SIDELED	SFH 4255	860	± 60	40	15 (≥ 10)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	12	Q65110A2467	70

Infrared Emitters







Package	Type	λ_{peak} typ [nm]	Half angle φ [°]	Measurement cond.			V_F [V]	Measurement cond. $I_F = 100$ mA, $t_p = 20$ ms	t_r, t_f typ [ns]	Ordering Code	Package Fig.
				Φ_e typ [mW]	I_e [mW/sr]						
 PowerTOPLED w. Lens	SFH 4248	950	± 15	50	100 (≥ 40)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	11	Q65110A7518	68
	SFH 4249		± 25		55 (≥ 25)					Q65110A7519	
 Power TOPLED w. Lens	SFH 4258	860	± 15	45	90 (≥ 40)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	12	Q65110A2975	69
 Power TOPLED w. Lens	SFH 4259	860	± 25	45	55 (≥ 25)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	12	Q65110A2464	68
 T1 3/4 SMR	SFH 4542	950	± 10	50	200 (≥ 63)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	11	Q65110A8093	73
 SMR	SFH 4543	950	± 10	50	200 (≥ 63)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	11	Q65110A8094	74

Infrared Emitters



Package	Type	λ_{peak} typ [nm]	Half angle φ [°]	Φ_e typ		Measure- ment cond.	V_F [V]	Measure- ment cond.	t_r, t_f typ [ns]	Ordering Code	Package Fig.
				[mW]	[mW/sr]						
 T 1	SFH 4350	860	± 13	50	70 (≥ 40)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	12	Q65110A2091	80
 T 1 3/4	SFH 4550	860	± 3	50	700 (≥ 400)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	12	Q65110A1772	78
 T 1 3/4	SFH 4555	860	± 5	50	500 (≥ 160)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	12	Q65110A7341	82
 T 1 3/4	SFH 4556	860	± 20	50	130 (≥ 40)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	12	Q65110A6087	79
 T 1	SFH 4341	950	± 10	39	80 (≥ 40)	$I_F=70$ mA, $t_p=20$ ms	1.6 (≤ 2)	$I_F = 70$ mA, $t_p = 20$ ms	11	Q65110A8092	80
 T 1 3/4	SFH 4545	950	± 5	50	500 (≥ 160)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	11	Q65110A8095	82
 T 1 3/4	SFH 4546	950	± 20	50	140 (≥ 40)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	11	Q65110A8096	79

Infrared Emitters

High Power Emitters (> 500 mW)

Package	Type	$\lambda_{\text{peak typ}}$ [nm]	Half angle φ [°]	Measurement cond.			V_F [V]	Measurement cond.	t_r, t_f typ [ns]	Ordering Code	Package Fig.
				Φ_e typ [mW]	I_e [mW/sr]						
 Golden DRAGON	SFH 4231	950	± 60	500	170	$I_F = 1 \text{ A}, t_p = 10 \text{ ms}$	1.8 (≤ 2.4)	$I_F = 1 \text{ A}, t_p = 100 \mu\text{s}$	20	Q65110A4808	59
 Platinum DRAGON	SFH 4232	860	± 60	530	180	$I_F = 1 \text{ A}, t_p = 100 \mu\text{s}$	1.5 (≤ 1.8)	$I_F = 1 \text{ A}, t_p = 100 \mu\text{s}$	7	Q65110A8754	60
 Platinum DRAGON	SFH 4235	860	± 60	950	320	$I_F = 1 \text{ A}, t_p = 100 \mu\text{s}$	3 (≤ 3.4)	$I_F = 1 \text{ A}, t_p = 100 \mu\text{s}$	7	Q65110A8900	60
 DRAGON with lens	SFH 4236	860	± 20	530	630 (>250)	$I_F = 1 \text{ A}, t_p = 10 \text{ ms}$	1.5 (≤ 1.8)	$I_F = 1 \text{ A}, t_p = 100 \mu\text{s}$	7	Q65110A9564	107
 OSTAR Lighting	SFH 4750	860	± 70	3500	1000	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	9.5 (≤ 12)	$I_F = 1 \text{ A}, t_p = 100 \mu\text{s}$	10	Q65110A8280	77
 OSTAR Lighting	SFH 4751	950	± 70	3100	900	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	9.8 (≤ 12)	$I_F = 1 \text{ A}, t_p = 100 \mu\text{s}$	10	Q65110A8867	77

Infrared Emitters


Package	Type	λ_{peak} typ [nm]	Half angle φ [°]	Measurement cond.			V_F [V]	Measurement cond.	t_r, t_f typ [ns]	Ordering Code	Package Fig.
				Φ_e [W]	I_e [mW/sr]						
 OSTAR Observation	SFH 4730	860	± 60	3	1000	$I_F = 1 \text{ A}, t_p = 20 \text{ ms}$	18 (≤ 24)	$I_F = 1 \text{ A}, t_p = 100 \mu\text{s}$	10	Q65110A5452	75
 OSTAR Observation	SFH 4740	860	± 60	3.6	1200	$I_F = 1 \text{ A}, t_p = 20 \text{ ms}$	18 (≤ 24)	$I_F = 1 \text{ A}, t_p = 100 \mu\text{s}$	10	Q65110A6190	76

Infrared Emitters

Emitters for special applications


Package	Type	Emitter						Ordering Code	Package Fig.
		λ_{peak} typ [nm]	Half angle φ [°]	I_V [mcd]	Measurement cond.	V_F [V]	Measurement cond.		

Detector/Emitter in Multi TOPLED package

 Multi TOPLED	SFH 331-JK	635	± 60	6 (4 ... 12.5)	$I_F = 10 \text{ mA}$	2 (≤ 2.6)	$I_F = 10 \text{ mA}$	Q65110A2821	11
	Detector								
	Radiant sensitive area typ. [mm ²]	I_{PCE} [μA]	Measurement cond.	V_{CE} max. [V]	$\lambda_{10\%}$ typ. [nm]	t_r, t_f typ [μs]			
0.038	≥ 16	$\lambda = 950 \text{ nm}, E_p = 0.1 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	440 ... 1150	7				


Package	Type	λ_{peak} typ [nm]	Half angle φ [°]	Emitter			V_F [V]	Measurement cond.	t_r, t_f typ [ns]	Ordering Code	Package Fig.
				Φ_e typ [mW]	I_e [mW/sr]	Measurement cond.					

2 Emitters in Multi TOPLED package


 Multi TOPLED	SFH 7222	880	± 60	23	7 (≥ 4)	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	1.5 (≤ 1.8)	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	500	Q65110A2742	72
		565					2.0 (≤ 2.6)				




Package	Type	Emitter						Ordering Code	Package Fig.
		λ_{peak} typ [nm]	Half angle φ [°]	I_e [mW/sr]	Measurement cond.	V_F [V]	Measurement cond.		

Detector/Emitter in Multi TOPLED package


 Multi TOPLED	SFH 7221	880	± 60	≥ 4	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	1.5 (≤ 1.8)	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	Q65110A2741	12
	Detector								
	Radiant sensitive area typ. [mm ²]	I_{PCE} [μA]	Measurement cond.	V_{CE} max. [V]	$\lambda_{10\%}$ typ. [nm]	t_r, t_f typ [μs]			
0.038	≥ 16	$\lambda = 880 \text{ nm}, E_p = 0.1 \text{ mW/cm}^2, V_{CE} = 5 \text{ V}$	35	440 ... 1150	7				








Infrared Emitters

Package	Type	Emitter						Ordering Code	Package Fig.
		λ_{peak} typ [nm]	Half angle φ [°]	I_V [mcd]	Measurement cond.	V_F [V]	Measurement cond.		
Detector/Emitter in Multi TOPLED package									
 Multi TOPLED	SFH 7225	591	± 60	63 ... 200	$I_F = 20 \text{ mA}, t_p = 20 \text{ ms}$	2 (≤ 2.6)	$I_F = 20 \text{ mA}, t_p = 20 \text{ ms}$	Q65110A2743	11
Detector									
		Radiant sensitive area typ. [mm ²]	I_{CE} typ [μA]	Measurement cond.	V_{CE} max. [V]	Crosstalk I_{PCE} , typ [mA]	Measurement Conditions		
		0.038	650	Std. Light A, $E_V = 1000 \text{ lx}, V_{CE} = 5 \text{ V}$	35	0.5 ... 5	$I_F = 20 \text{ mA}, V_{CE} = 5 \text{ V}$		






Package	Type	λ_{peak} typ [nm]	Half angle φ [°]				V_F [V]	Measurement cond.	t_r, t_f typ [ns]	Ordering Code	Package Fig.
				Φ_e typ [mW]	I_e [mW/sr]	Measurement cond.					
 Array	LD 261	950	± 15	9	5.5 (2 ... 10)	$I_F = 50 \text{ mA}, t_p = 20 \text{ ms}$	1.25 (≤ 1.4)	$I_F = 50 \text{ mA}, t_p = 20 \text{ ms}$	1000	Q62703Q0395	24
	LD 261-5/6				5.5 (3.2 ... 10)					Q65110A3337	
 Array	LD 262	950	± 15	9	5 (≥ 2)	$I_F = 50 \text{ mA}, t_p = 20 \text{ ms}$	1.25 (≤ 1.4)	$I_F = 50 \text{ mA}, t_p = 20 \text{ ms}$	1000	Q62703Q0070	25
	LD 263									Q62703Q0071	
	LD 264									Q62703Q0072	
	LD 265									Q62703Q0073	
	LD 266									Q62703Q0074	
	LD 267									Q62703Q0075	
	LD 268									Q62703Q0076	
	LD 269									Q62703Q0077	
LD 260	Q62703Q0078										
 Array	SFH 405	950	± 16	7	2.5 (≥ 1.6)	$I_F = 40 \text{ mA}, t_p = 20 \text{ ms}$	1.25 (≤ 1.4)	$I_F = 40 \text{ mA}, t_p = 20 \text{ ms}$	1000	Q62702P0835	23

Infrared Emitters

Package	Type	$\lambda_{\text{peak typ}}$ [nm]	Half angle φ [°]	Measurement cond.			V_F [V]	Measurement cond.	t_r, t_f typ [ns]	Ordering Code	Package Fig.
				Φ_e typ [mW]	I_e [mW/sr]						
 TO18	SFH 4850 E7800	860	± 23	50	7 (≥ 4)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	12	Q65110A2093	81

Package	Type	$\lambda_{\text{peak typ}}$ [nm]	Half angle φ [°]	Measurement cond.			V_F [V]	Measurement cond.	t_r, t_f typ [ns]	Ordering Code	Package Fig.
				Φ_e typ [mW]	I_e [mW/sr]						
 TO18	SFH 464 E7800	660	± 23	11	1.5 (≥ 1)	$I_F = 50$ mA, $t_p = 20$ ms	2.1 (≤ 2.8)	$I_F = 50$ mA, $t_p = 20$ ms	100	Q62702P1745	81
 TO18	SFH 4860	660	± 50	3	1.3 (≥ 0.63)	$I_F = 50$ mA, $t_p = 20$ ms	2 (≤ 2.8)	$I_F = 50$ mA, $t_p = 20$ ms	100	Q62702P5053	91
 TO 18	SFH 480	880	± 6	12	75 (≥ 40)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	600	Q62703Q1087	92
	SFH 480-2/3									Q62702P5195	
 TO 18	SFH 483 L/M E7800	880	± 23	23	2 (1 ... 3.2)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	600	Q62703Q4755	81
 TO18	SFH 482	880	± 30	12	7 (≥ 3.15)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	600	Q62703Q1089	44
	SFH 482-1/2				5.5 (3.15 ... 10)					Q62703Q4771	
	SFH 482-2/3				8 (≥ 5)					Q62703Q4754	
	SFH 482 M E7800				2.4 (1.6 ... 3.2)					Q62703Q2186	
 TO18	SFH 4881	880	± 5	12	72 (≥ 40)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	500	Q62702P5302	93
 TO18	SFH 4883	880	± 35	15	8 (≥ 4)	$I_F=100$ mA, $t_p=20$ ms	1.5 (≤ 1.8)	$I_F = 100$ mA, $t_p = 20$ ms	500	Q62702P5303	94

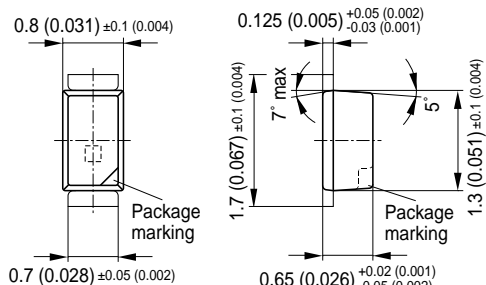
Infrared Emitters

Package	Type	$\lambda_{\text{peak typ}}$ [nm]	Half angle φ [°]	Measurement cond.			V_F [V]	Measurement cond.	t_r, t_f typ [ns]	Ordering Code	Package Fig.
				Φ_e typ [mW]	I_e [mW/sr]						
 TO 18	LD 242-2/3	950	± 40	16	6 (≥ 4)	$I_F=100 \text{ mA}, t_p=20 \text{ ms}$	1.3 (≤ 1.5)	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	1000	Q62703Q4749	81
	LD 242 E7800				2.5 (1 ... 3.2)					Q62703Q3509	
 TO18	SFH 400	950	± 6	8	36 (≥ 20)	$I_F=100 \text{ mA}, t_p=20 \text{ ms}$	1.3 (≤ 1.5)	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	1000	Q62702P0096	92
 TO18	SFH 401	950	± 15	8	≥ 10	$I_F=100 \text{ mA}, t_p=20 \text{ ms}$	1.3 (≤ 1.5)	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	1000	Q62702P0097	95
 TO18	SFH 4811	950	± 5	8	40 (≥ 25)	$I_F=100 \text{ mA}, t_p=20 \text{ ms}$	1.3 (≤ 1.5)	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	500	Q62702P5300	96
 TO18	SFH 4813	950	± 35	8	4.5 (≥ 2.5)	$I_F=100 \text{ mA}, t_p=20 \text{ ms}$	1.3 (≤ 1.5)	$I_F = 100 \text{ mA}, t_p = 20 \text{ ms}$	500	Q62702P5301	97

Silicon Photodetectors, Optical Sensors and Infrared Emitters

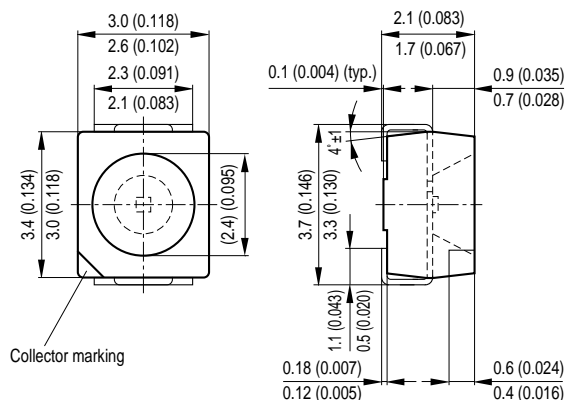
Outline drawings - Dimensions in mm (inch)

Figure 1: SFH 3010, SFH 4010



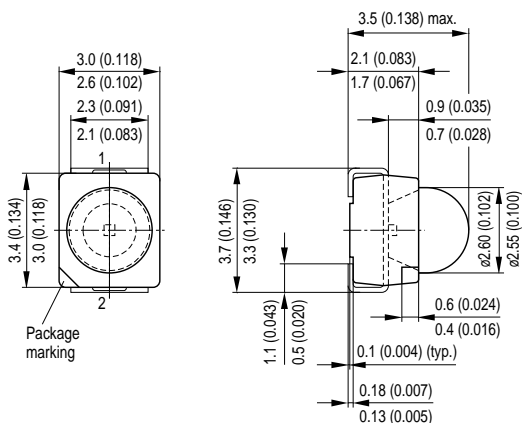
GPLY7036

Figure 2: SFH 320, SFH 320 FA



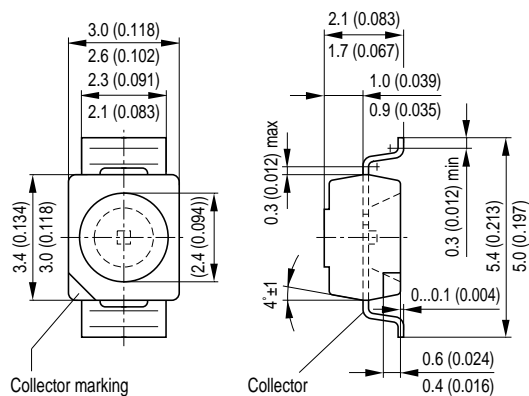
GPLY6030

Figure 3: SFH 3219



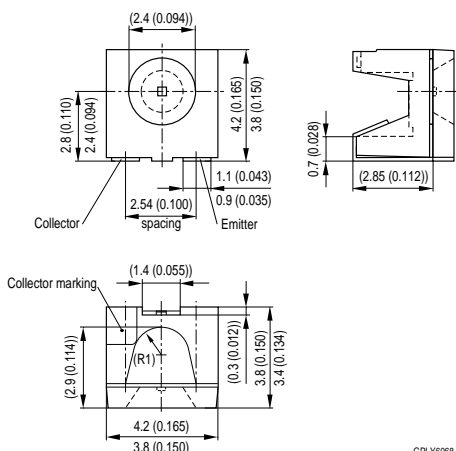
GEOY6956

Figure 4: SFH 3211 FA



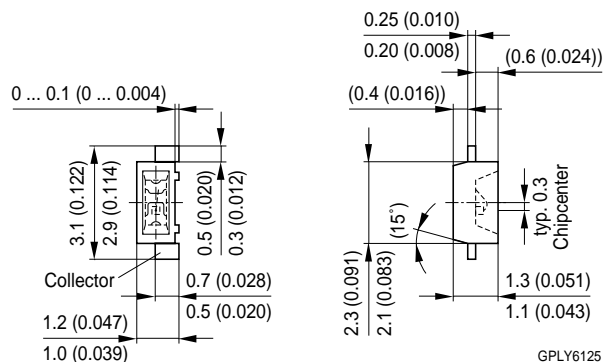
GPLY6067

Figure 5: SFH 325, SFH 325 FA



GPLY6068

Figure 6: SFH 3204



GPLY6125

Silicon Photodetectors, Optical Sensors and Infrared Emitters

Outline drawings - Dimensions in mm (inch)

Figure 7: SFH 3400

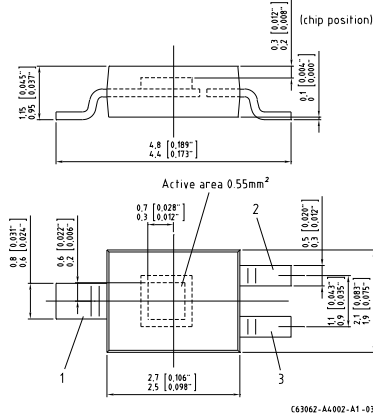


Figure 8: SFH 3401

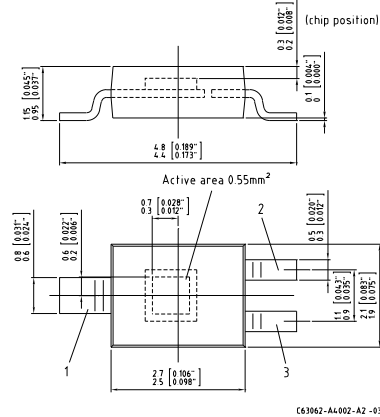


Figure 9: SFH 3201

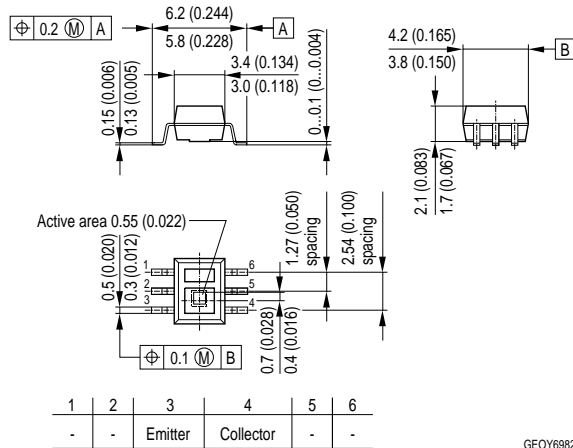
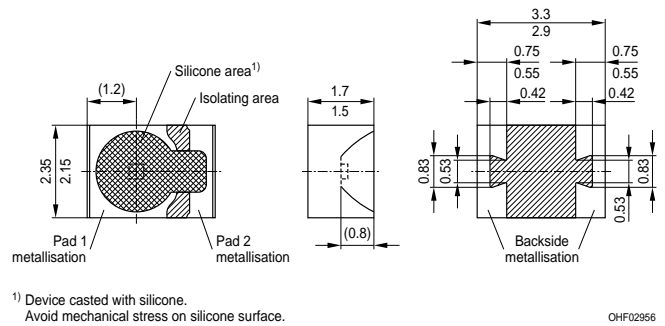
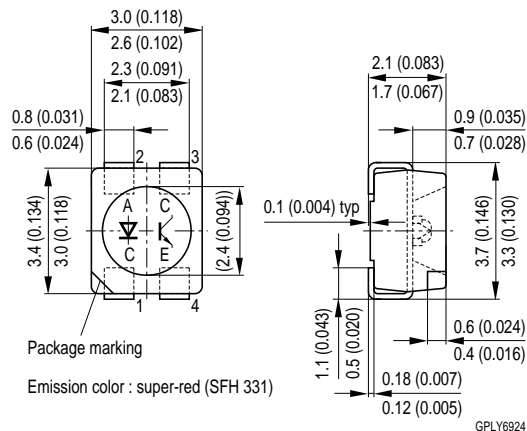


Figure 10: SFH 3600, SFH 3605, SFH 4640, SFH 4641, SFH 4645, SFH 4646, SFH 4650, SFH 4651, SFH 4655, SFH 4656, SFH 4680, SFH 4685
For polarity, please see Datasheet



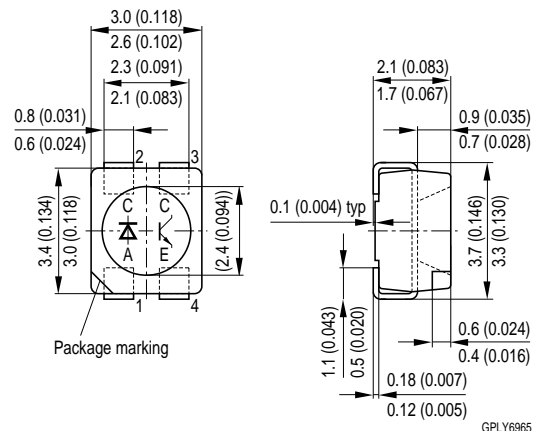
¹⁾ Device casted with silicone.
Avoid mechanical stress on silicone surface.

Figure 11: SFH 331, SFH 7225



Package marking
Emission color : super-red (SFH 331)

Figure 12: SFH 7221



Package marking

Silicon Photodetectors, Optical Sensors and Infrared Emitters

Outline drawings - Dimensions in mm (inch)

Figure 13: SFH 309, SFH 309 FA, SFH 229, SFH 229 FA

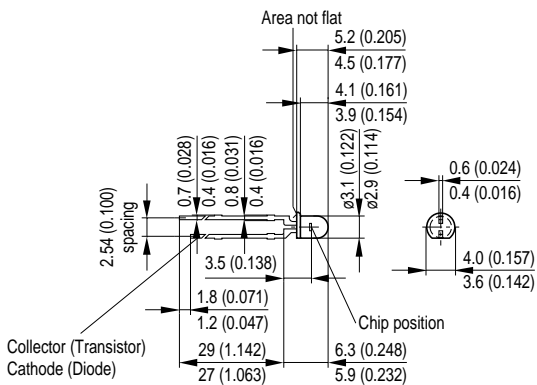


Figure 14: SFH 310, SFH 310 FA

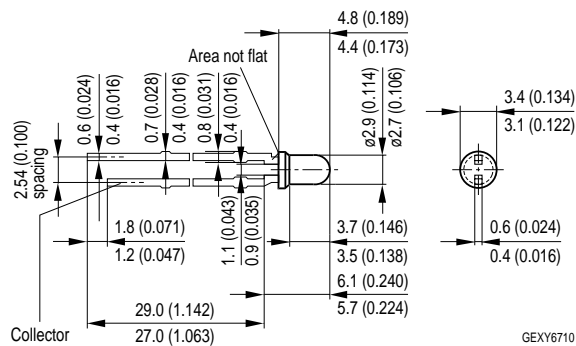


Figure 15: SFH 309 P, SFH 309 PFA, SFH 3310

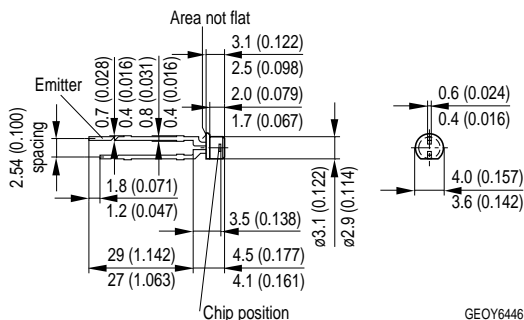


Figure 16: SFH 314, SFH 314 FA

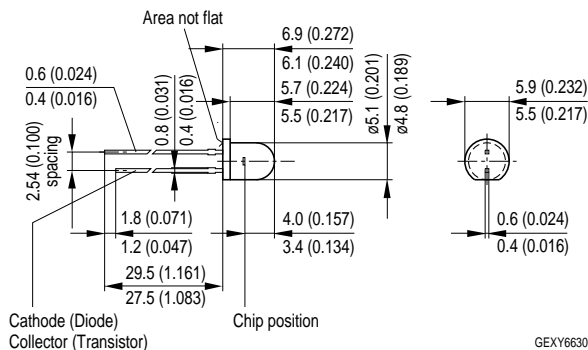


Figure 17: SFH 300, SFH 300 FA

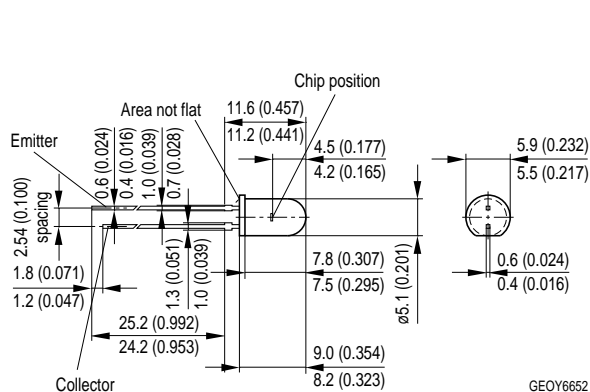
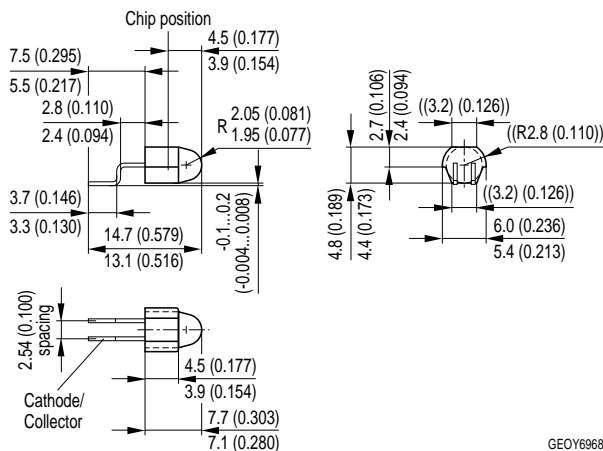


Figure 18: SFH 3500, SFH 2500 FA, SFH 4510



Silicon Photodetectors, Optical Sensors and Infrared Emitters

Outline drawings - Dimensions in mm (inch)

Figure 19: LPT 80 A

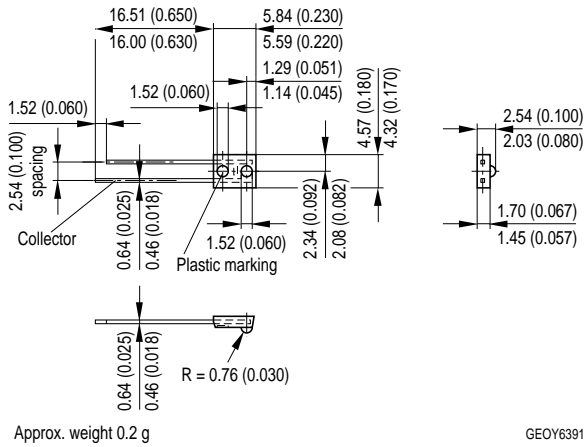


Figure 20: SFH 213, SFH 213 FA

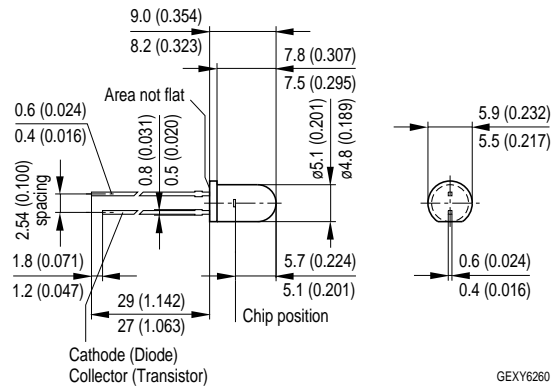


Figure 21: SFH 303 FA

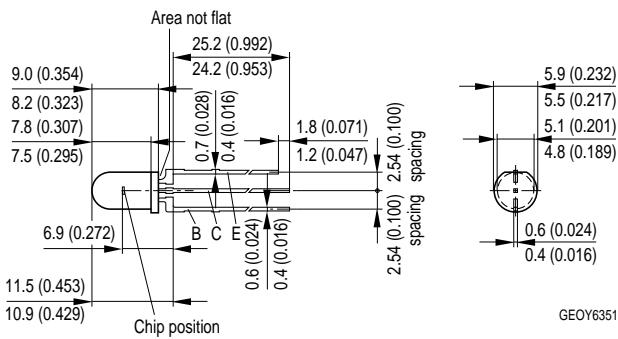


Figure 22: SFH 3100 F, SFH 4110

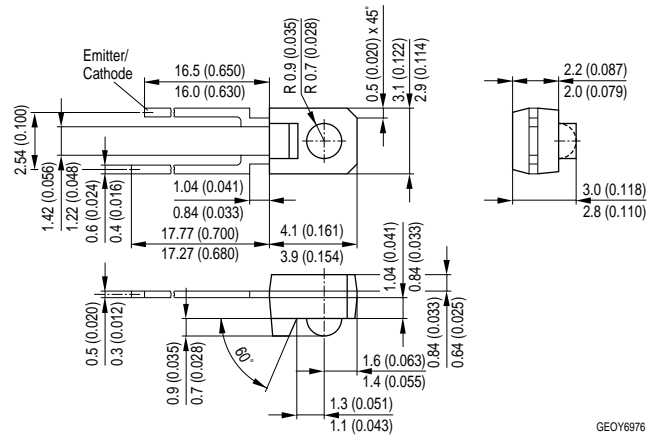


Figure 23: SFH 305, SFH 405

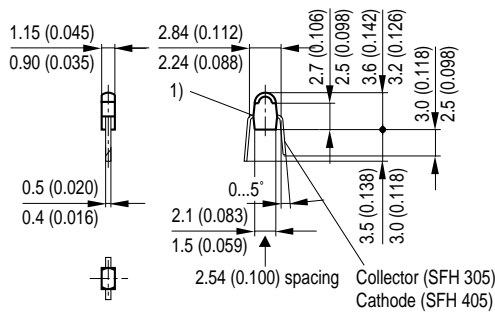
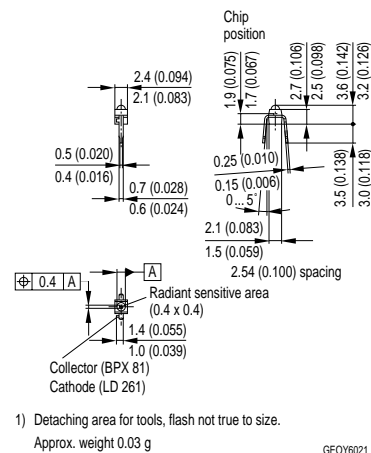


Figure 24: BPX 81, LD 261



Silicon Photodetectors, Optical Sensors and Infrared Emitters

Outline drawings - Dimensions in mm (inch)

Figure 25: BPX 80, BPX 82-89, LD 260, LD 262-269

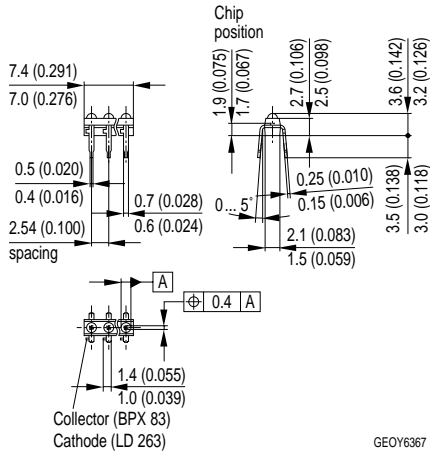


Figure 26: BPX 43, BPY 62

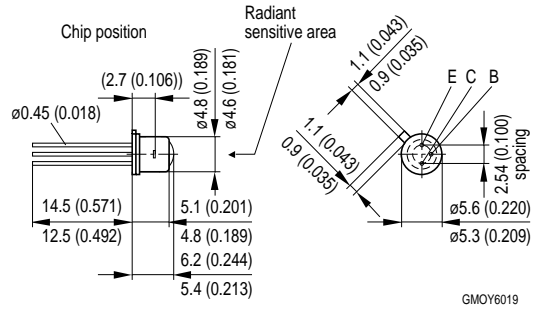


Figure 27: BPX 38

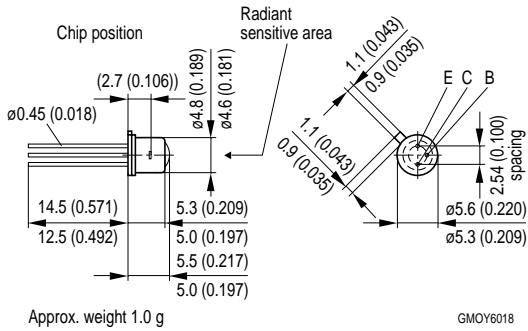


Figure 28: BP 103

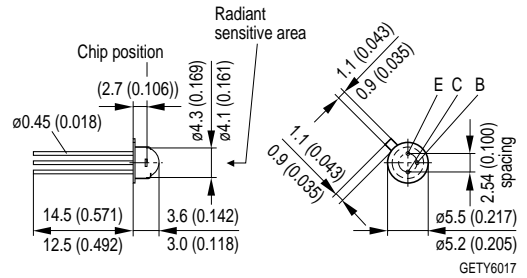


Figure 29: BPW 34 S, BPW 34 BS, BP 104 S

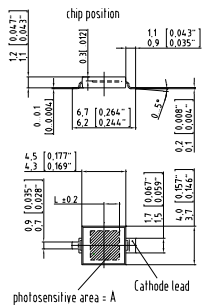
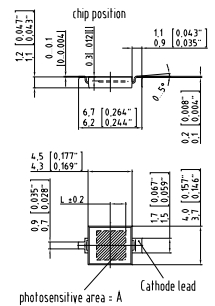


Figure 30: BP 104 SR, BPW 34 SR



Silicon Photodetectors, Optical Sensors and Infrared Emitters

Outline drawings - Dimensions in mm (inch)

Figure 31: SFH 2400, SFH 2400 FA

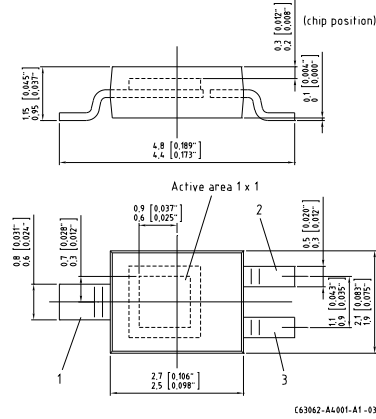


Figure 32: SFH 2505, SFH 2505 FA, SFH 4515

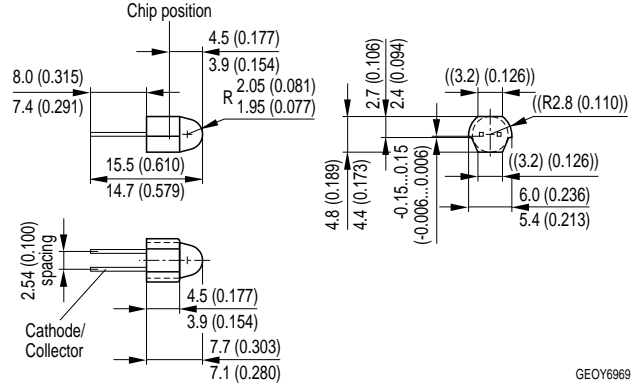


Figure 33: SFH 2701

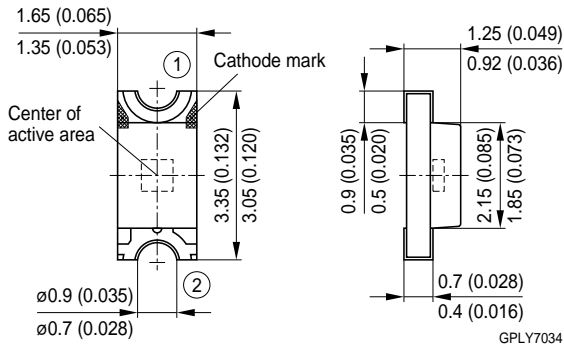


Figure 34: BP 104 FS, BP 104 FAS, BPW 34 FS, BPW 34 FAS

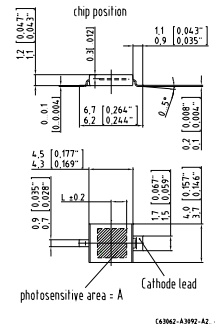


Figure 35: BP 104 FASR, BPW 34 FSR, BPW 34 FASR

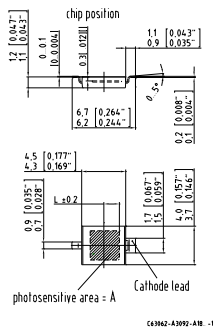
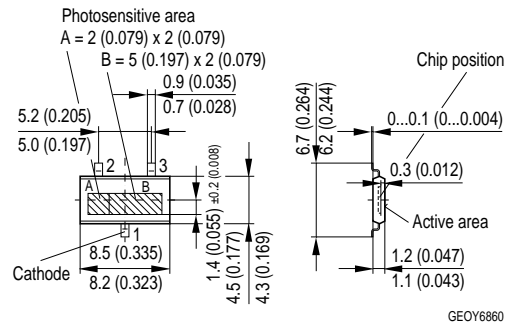


Figure 36: KOM 2125



Silicon Photodetectors, Optical Sensors and Infrared Emitters

Outline drawings - Dimensions in mm (inch)

Figure 37: BPW 34, BPW 34 B

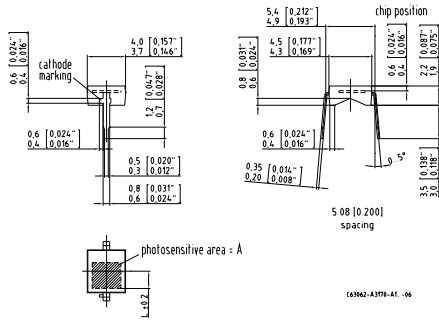


Figure 38: SFH 206 K

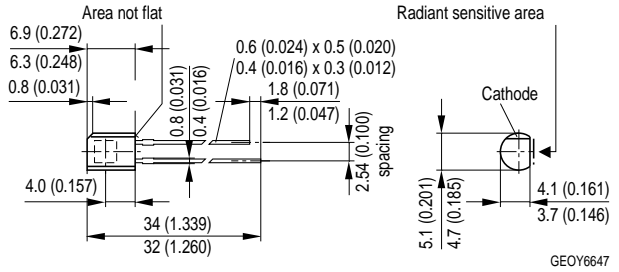


Figure 39: SFH 203, SFH 203 FA, LD 271 L/LH, SFH 415

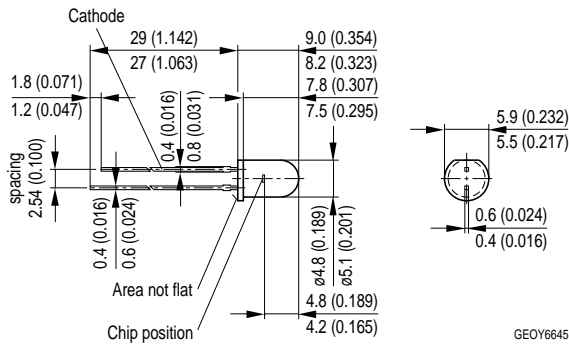


Figure 40: SFH 203 P, SFH 203 PFA

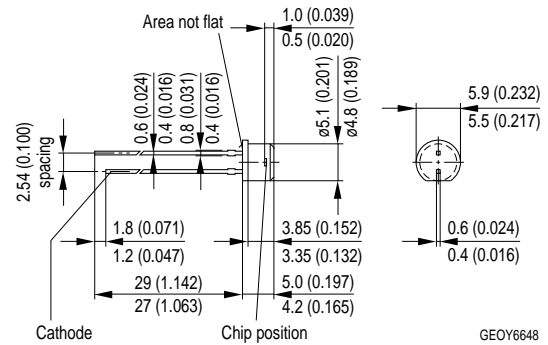


Figure 41: BP 104 F, BPW 34 FA, BPW 34 F

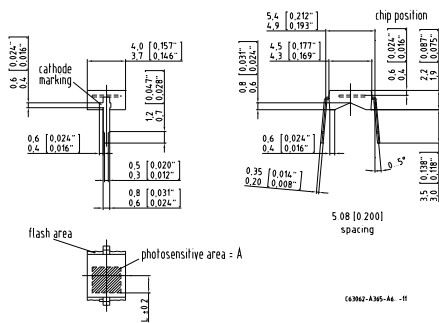
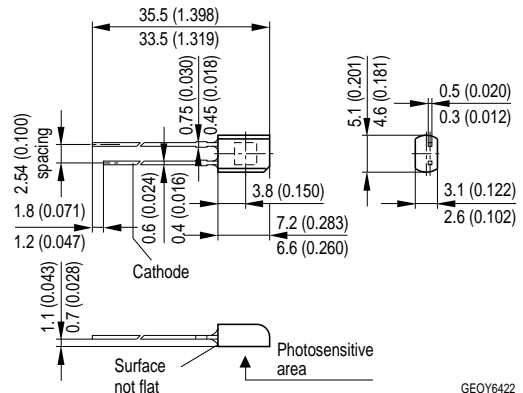


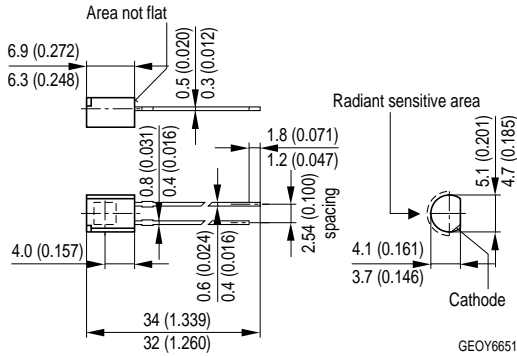
Figure 42: SFH 225 FA, SFH 235 FA



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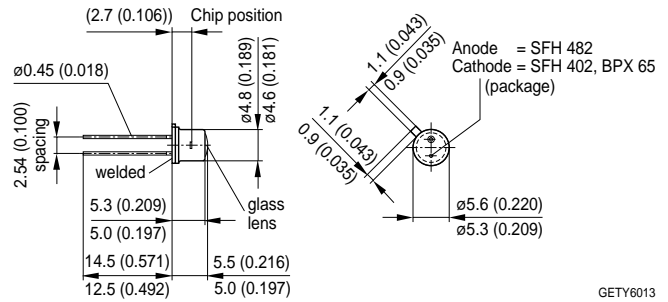
Outline drawings - Dimensions in mm (inch)

Figure 43: SFH 205 F, SFH 205 FA



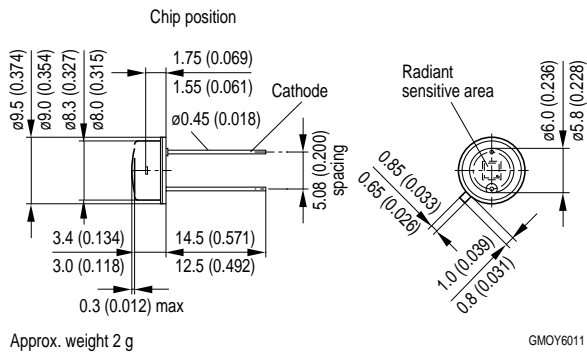
GEOY6651

Figure 44: SFH 482, BPX 65



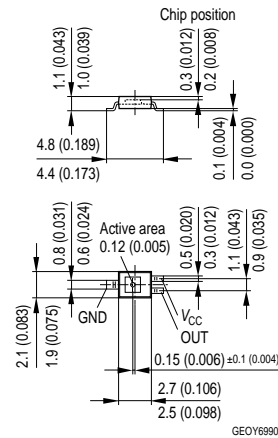
GEOY6013

Figure 45: BPW 21, BPX 61



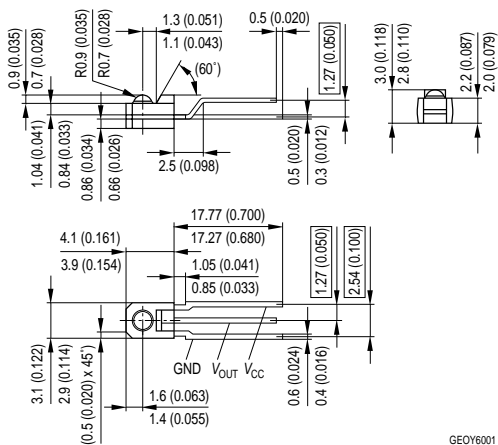
GMOY6011

Figure 46: SFH 5440



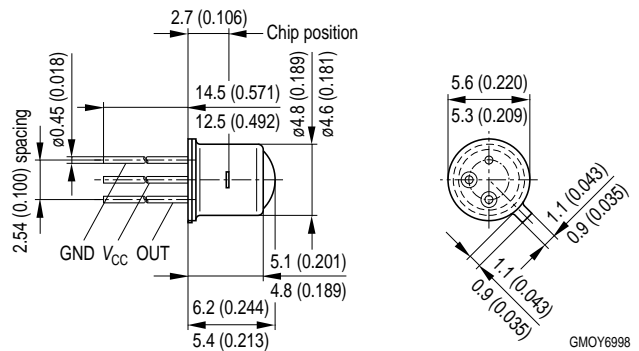
GEOY6690

Figure 47: SFH 5140 F



GEOY6001

Figure 48: SFH 5840



GMOY6998

Silicon Photodetectors, Optical Sensors and Infrared Emitters

Outline drawings - Dimensions in mm (inch)

Figure 49: SFH 221

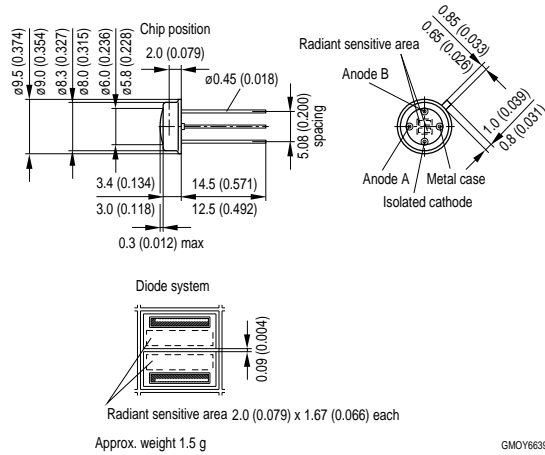


Figure 50: BPX 48

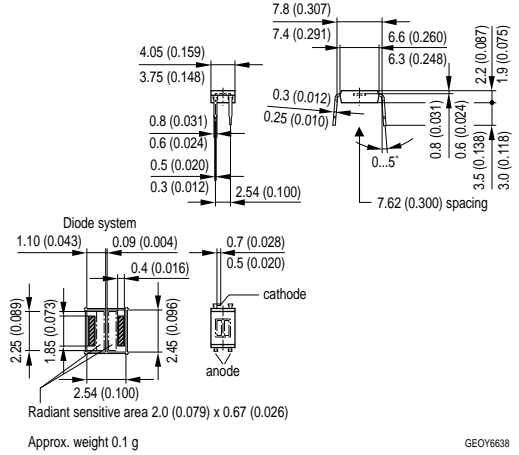


Figure 51: SFH 2430

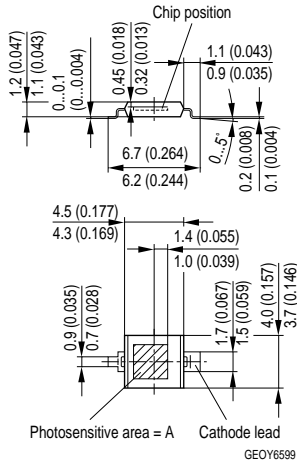


Figure 52: SFH 3410

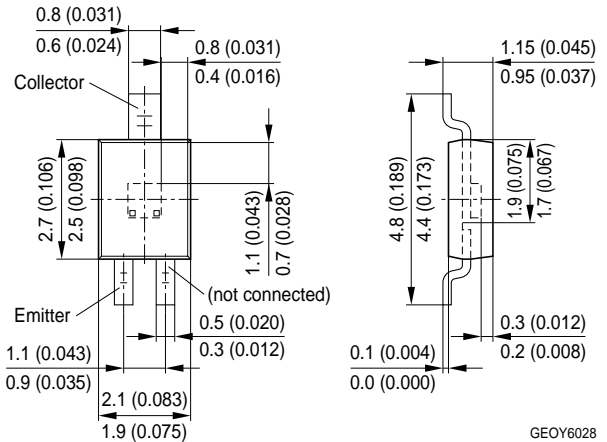


Figure 53: SFH 3710

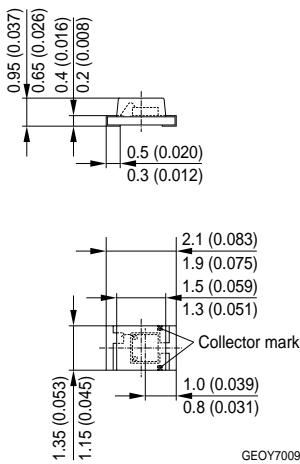
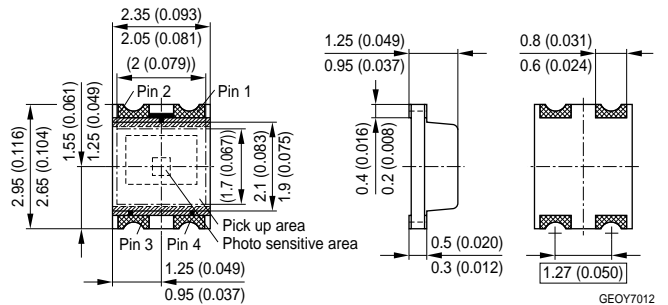


Figure 54: SFH 5711



Silicon Photodetectors, Optical Sensors and Infrared Emitters

Outline drawings - Dimensions in mm (inch)

Figure 55: SFH 9315

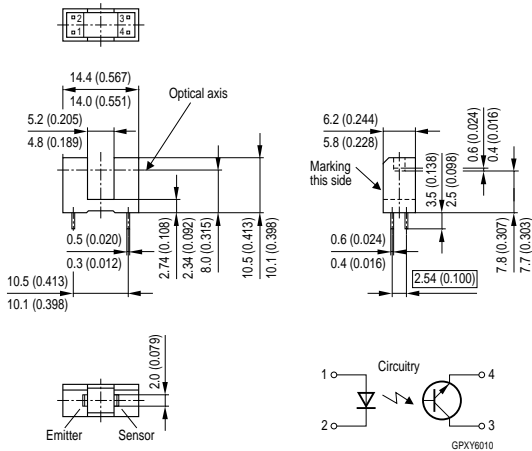


Figure 56: SFH 9500

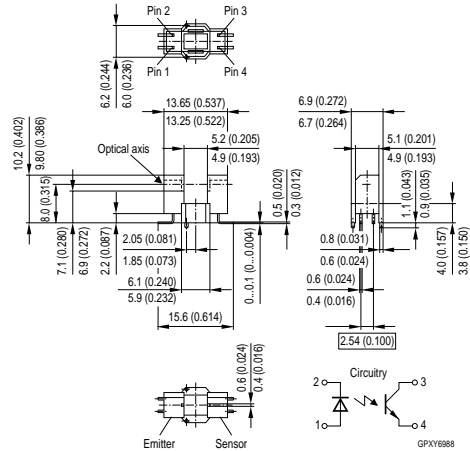


Figure 57: SFH 9201, SFH 9202, SFH 9240

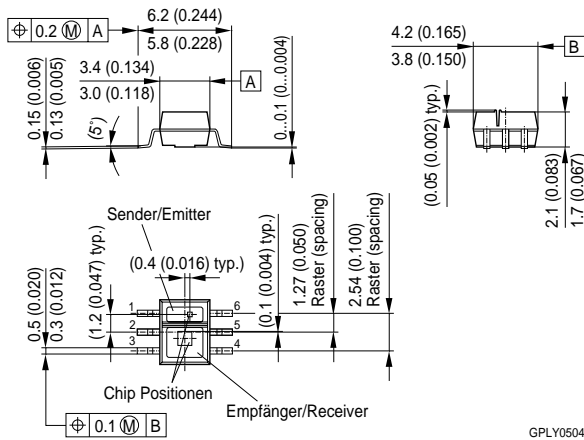


Figure 58: SFH 7740, SFH 7741, SFH 7743

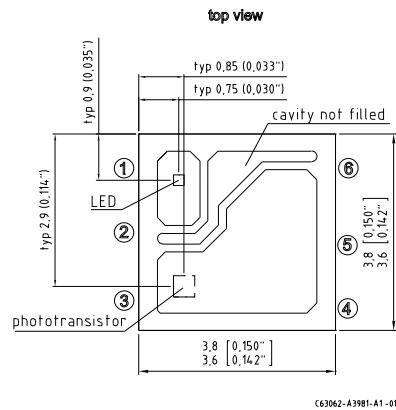


Figure 59: SFH 4231

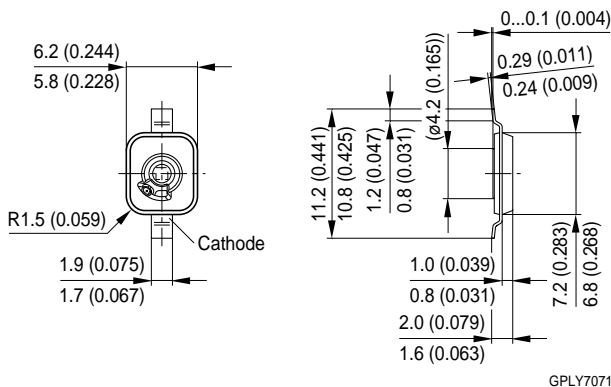
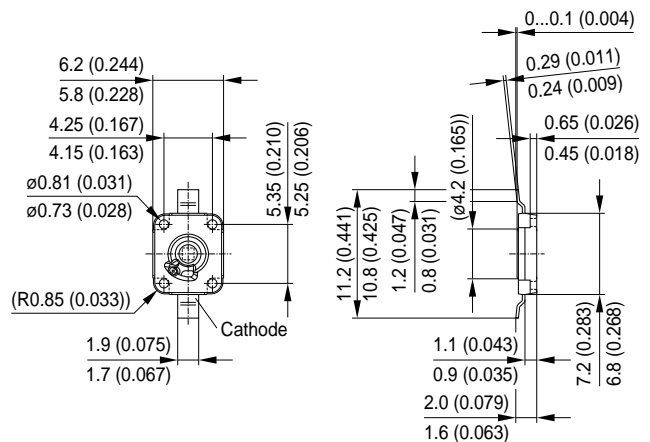


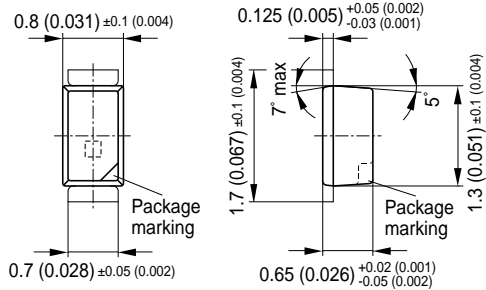
Figure 60: SFH 4232



Silicon Photodetectors, Optical Sensors and Infrared Emitters

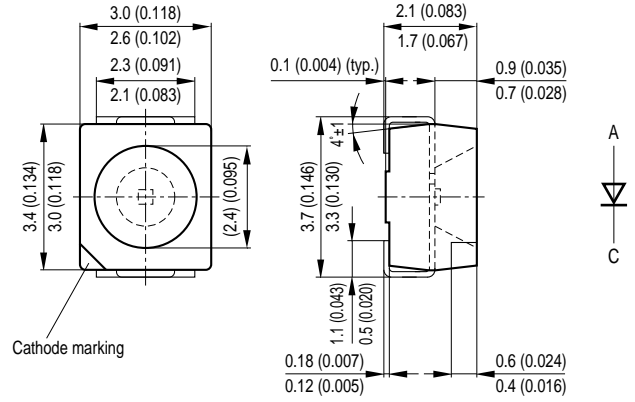
Outline drawings - Dimensions in mm (inch)

Figure 61: SFH 4050, SFH 4080



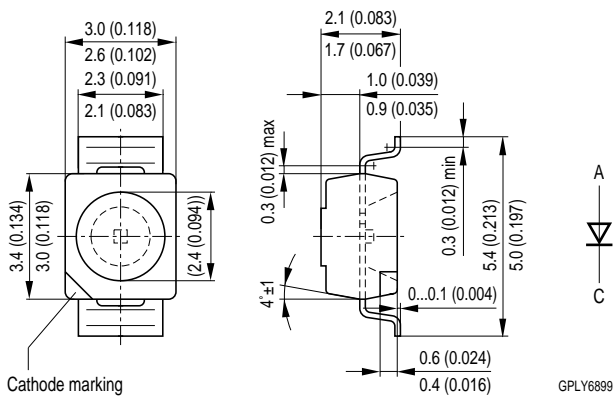
GPLY7036

Figure 62: SFH 420, SFH 421, SFH 4211



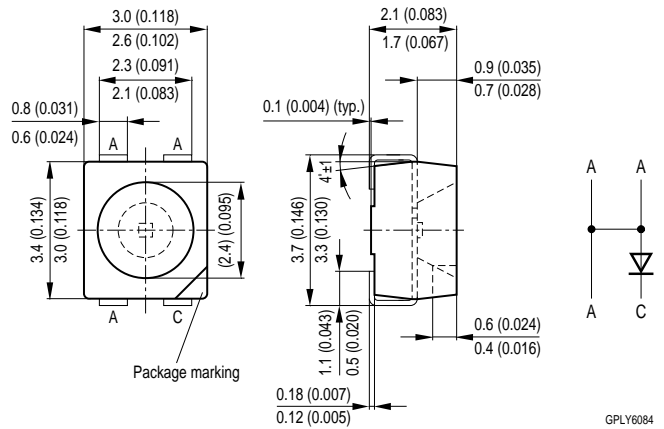
GPLY6724

Figure 63: SFH 4281



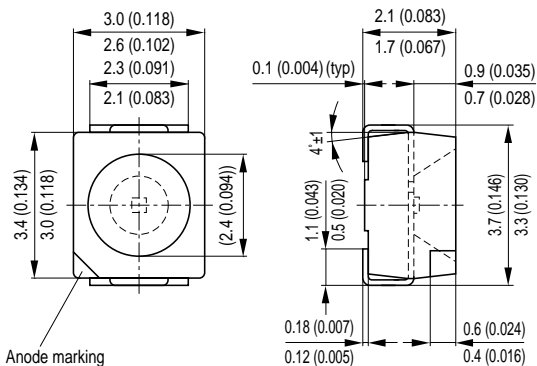
GPLY6899

Figure 64: SFH 4250



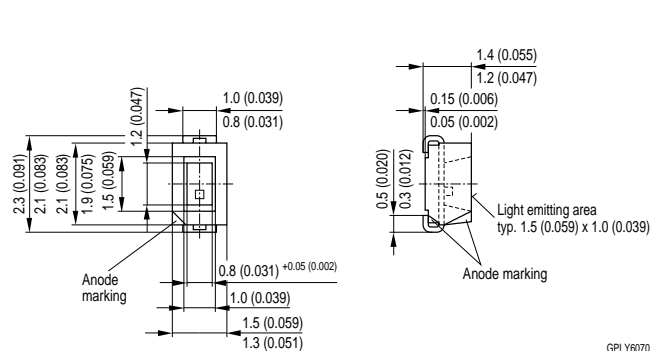
GPLY6084

Figure 65: SFH 4271, SFH 4257, SFH 4283



GPLY6059

Figure 66: SFH 4203, SFH 4247



GPLY6070

Silicon Photodetectors, Optical Sensors and Infrared Emitters

Outline drawings - Dimensions in mm (inch)

Figure 67: SFH 4243, SFH 4253

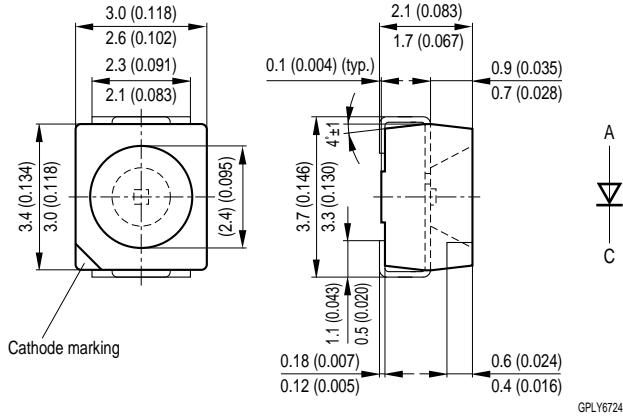


Figure 68: SFH 4248, SFH 4249, SFH 4259

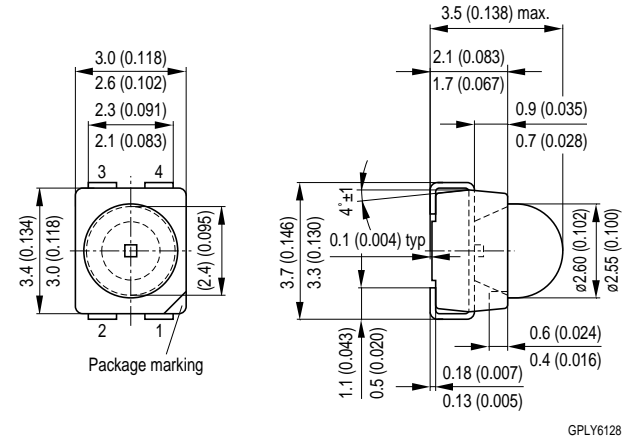


Figure 69: SFH 4258

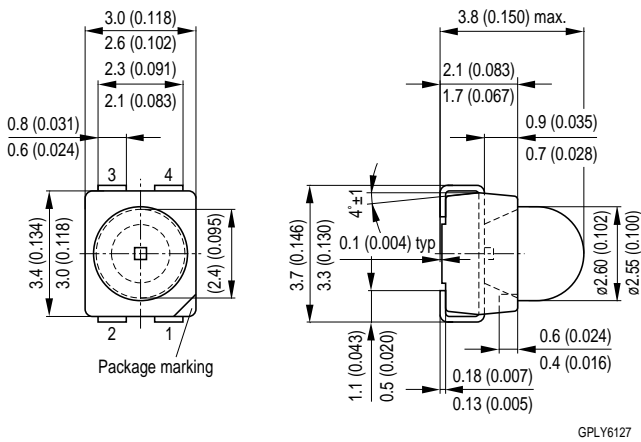


Figure 70: SFH 425, SFH 426, SFH 4255

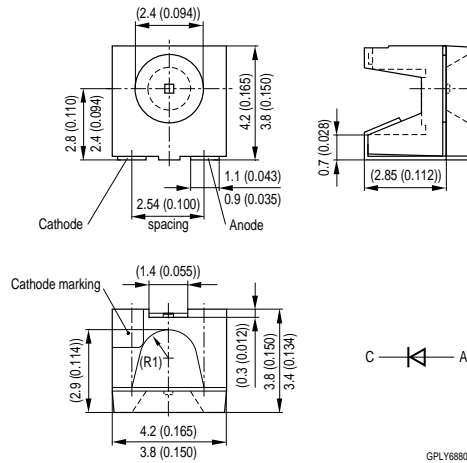


Figure 71: SFH 4244

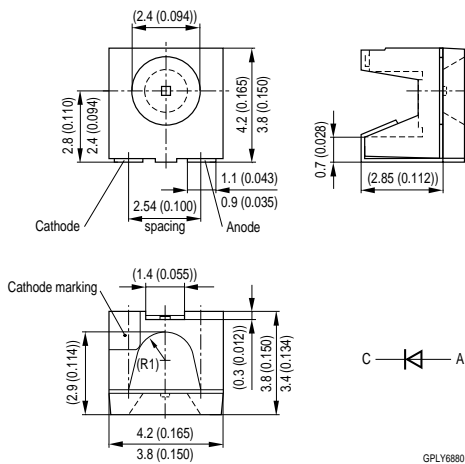
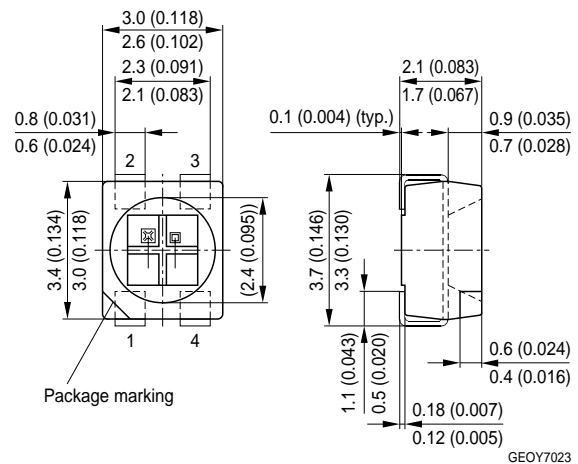


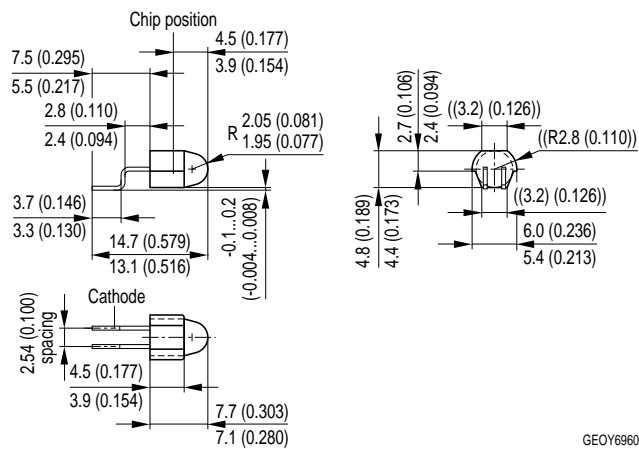
Figure 72: SFH 7222



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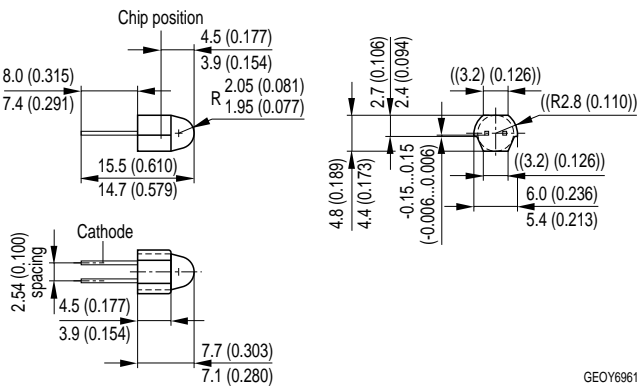
Outline drawings - Dimensions in mm (inch)

Figure 73: SFH 4542, SFH 4580



GEOY6960

Figure 74: SFH 4543, SFH 4585



GEOY6961

Figure 75: SFH 4730

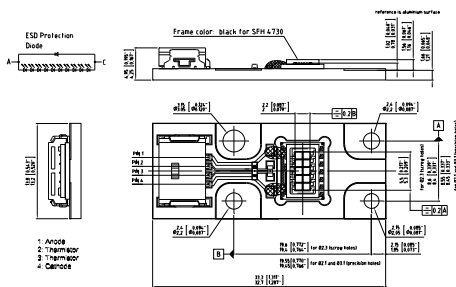


Figure 76: SFH 4740

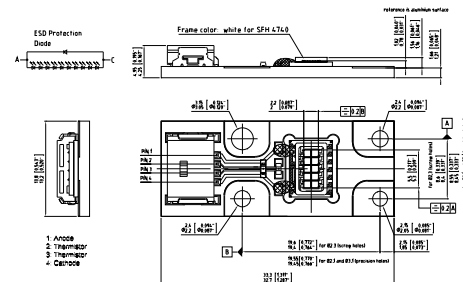


Figure 77: SFH 4750, SFH 4751

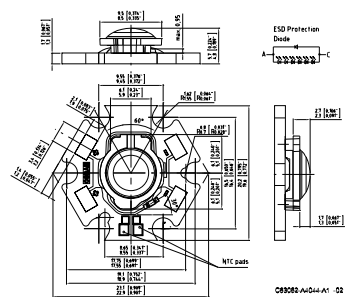
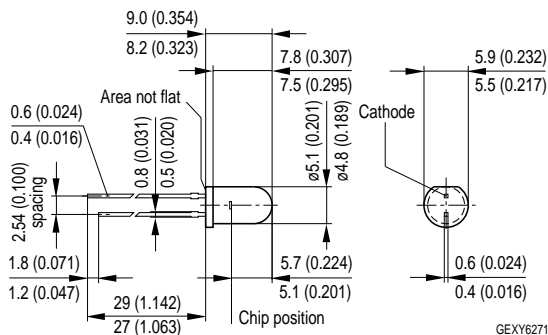


Figure 78: SFH 484, SFH 4550



GEXY6271

Silicon Photodetectors, Optical Sensors and Infrared Emitters

Outline drawings - Dimensions in mm (inch)

Figure 79: SFH 4546, SFH 4556

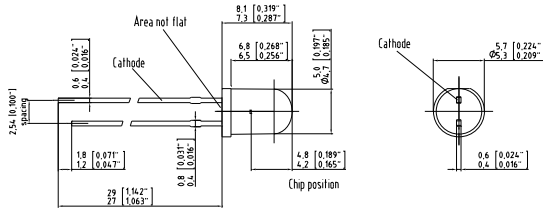
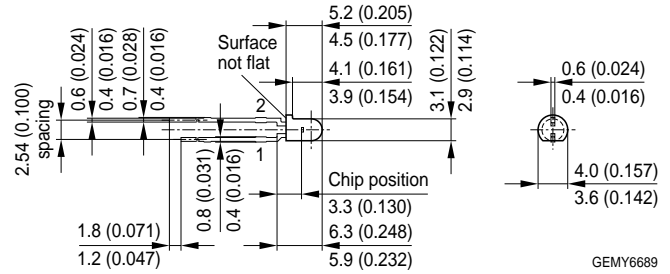
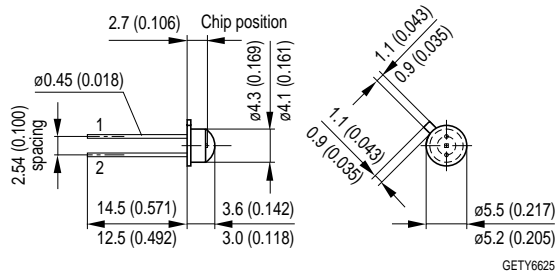


Figure 80: SFH 487, SFH 4341, SFH 4350



GEMY6689

Figure 81: SFH 4850, SFH 464, LD 242, SFH 483



GETY6625

Figure 82: SFH 4545, SFH 4555

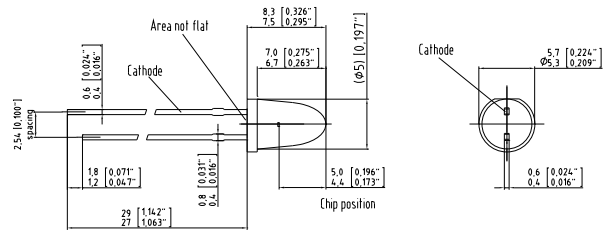
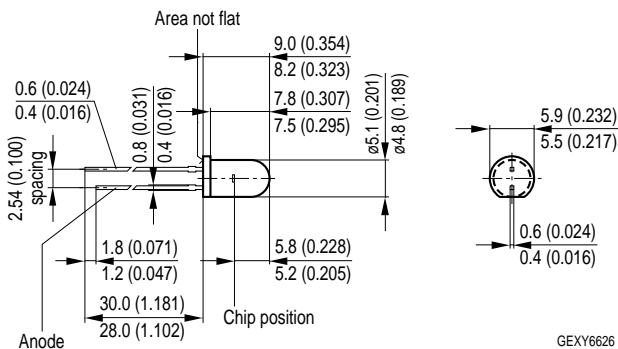
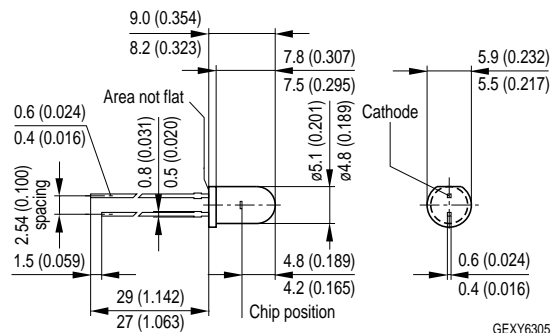


Figure 83: SFH 486



GEXY6626

Figure 84: SFH 485



GEXY6305

Silicon Photodetectors, Optical Sensors and Infrared Emitters

Outline drawings - Dimensions in mm (inch)

Figure 85: SFH 485 P

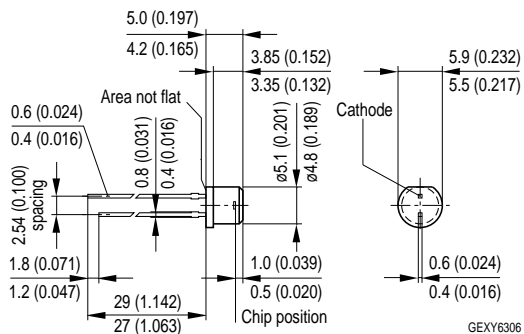


Figure 86: SFH 487 P

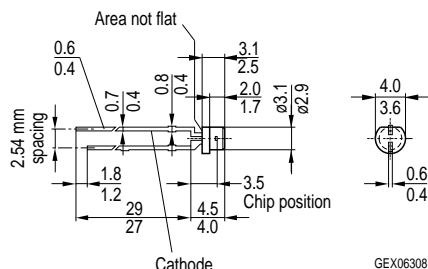


Figure 87: LD 274, SFH 4511

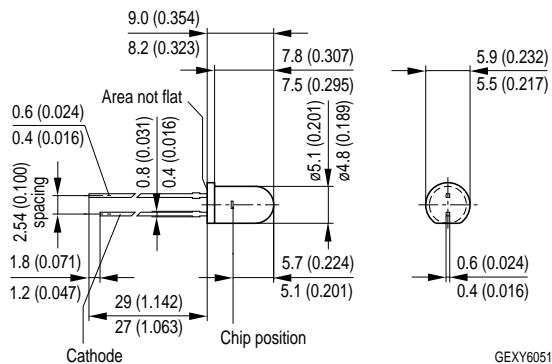


Figure 88: LD 271, LD 271 H

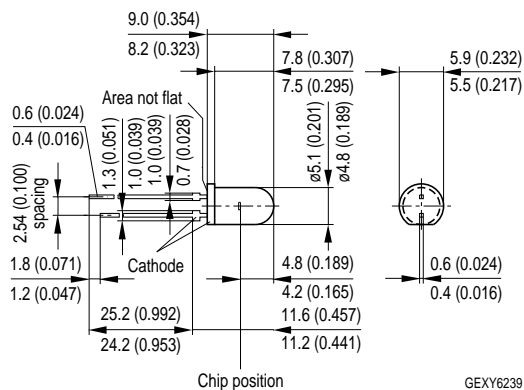


Figure 89: SFH 409

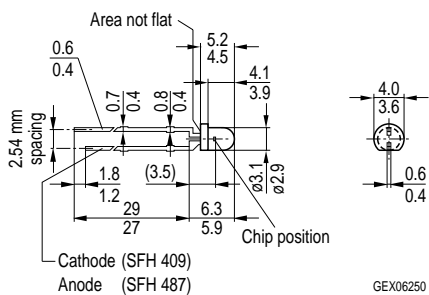
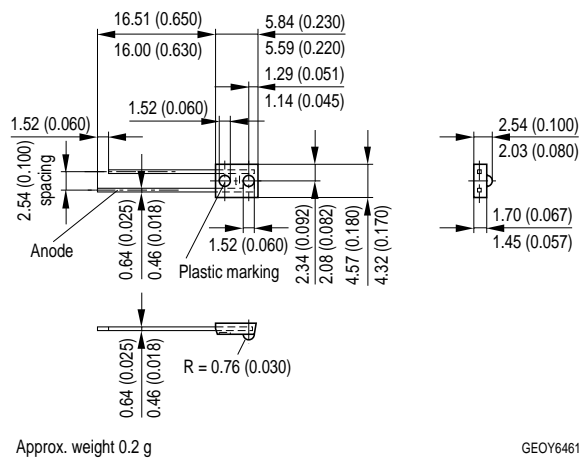


Figure 90: IRL 80 A, IRL 81 A



Silicon Photodetectors, Optical Sensors and Infrared Emitters

Outline drawings - Dimensions in mm (inch)

Figure 91: SFH 4860

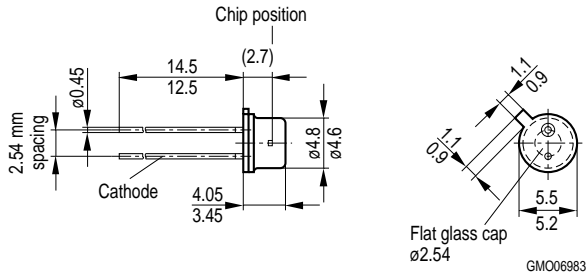


Figure 92: SFH 400, SFH 480

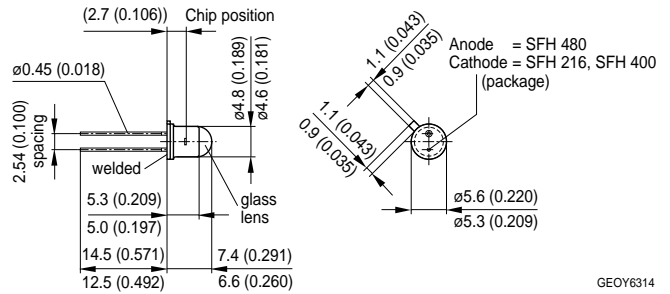


Figure 93: SFH 4881

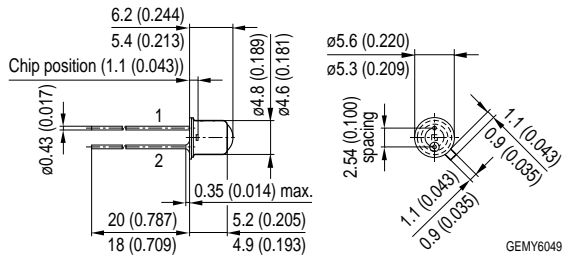


Figure 94: SFH 4883

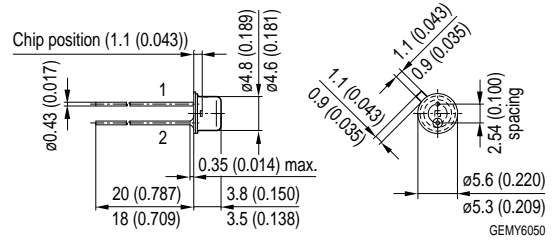


Figure 95: SFH 401

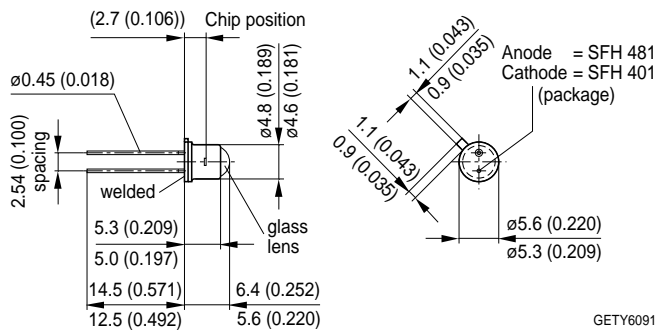
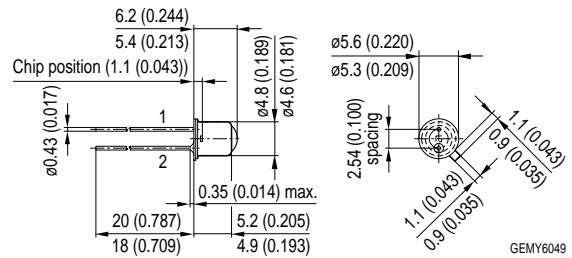


Figure 96: SFH 4811



Silicon Photodetectors, Optical Sensors and Infrared Emitters

Outline drawings - Dimensions in mm (inch)

Figure 97: SFH 4883, SFH 4813

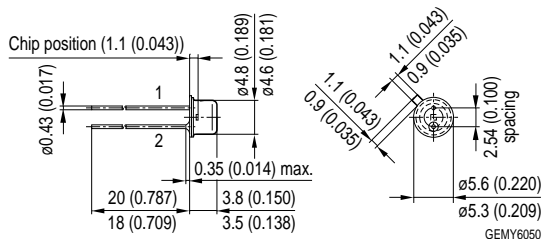


Figure 98: SFH 3015 FA, SFH 4045

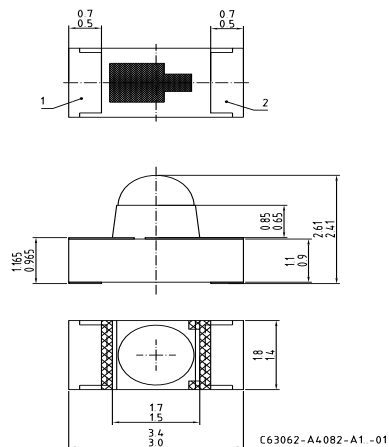


Figure 99: SFH 2400 FAR

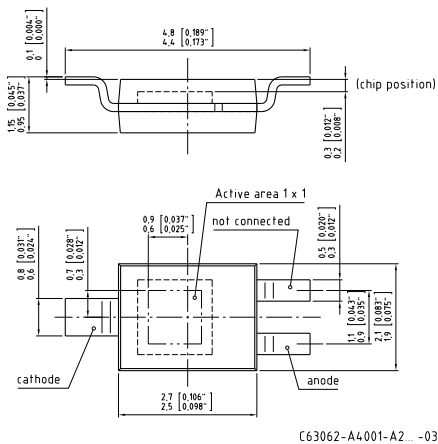


Figure 100: SFH 4056

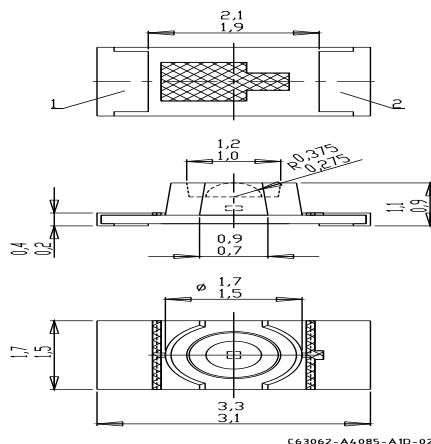


Figure 101: SFH 4058

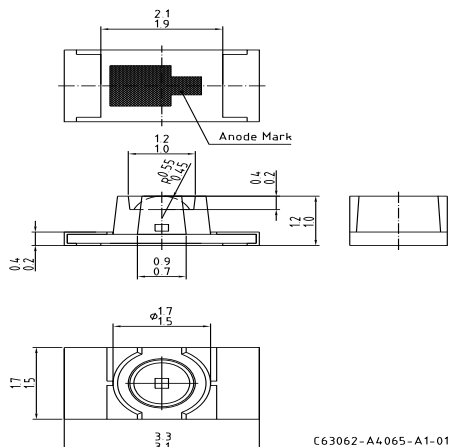
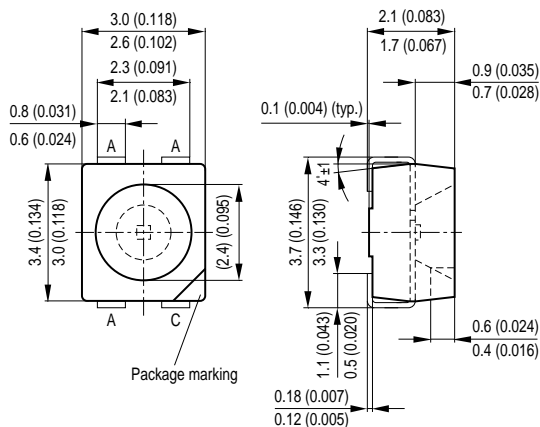


Figure 102: SFH 4240



Silicon Photodetectors, Optical Sensors and Infrared Emitters

Outline drawings - Dimensions in mm (inch)

Figure 103: SFH 4257 R

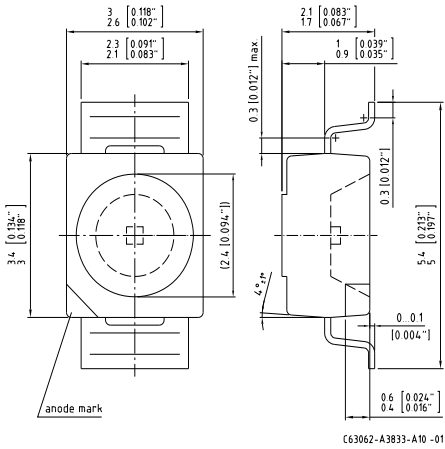


Figure 104: SFH 2270 R

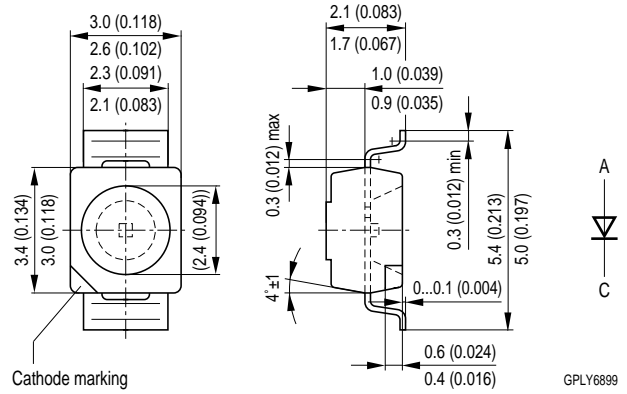


Figure 105: SFH 5712

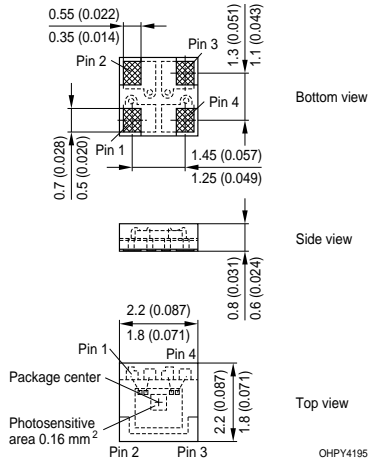


Figure 106: SFH

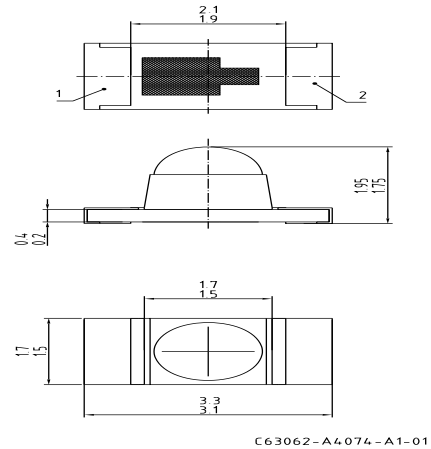


Figure 107: SFH 4236

