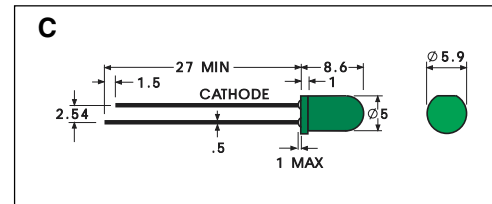


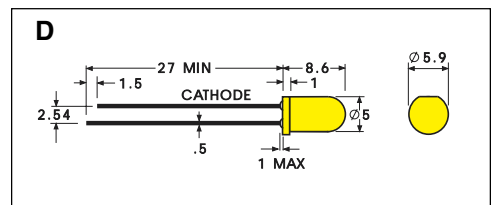
## T-1 and T-1<sup>3/4</sup>, Infrared LEDs: 880nm, 940nm

	Line No.	Part No.	Size	Lens	Radiant Power at 20mA		Viewing Angle 2θ <sup>1/2</sup>	Forward Voltage at 20mA		Peak Wave Length at 20mA	Drawing
					Minimum	Typical		Typical	Maximum		
INFRARED	1	E21	T-1	Clear	2.0mW/sr	10.0mW/sr	30°	1.2V	1.5V	940nm	A
INFRARED	2	E22	T-1	Trans.Blue	2.0mW/sr	4.0mW/sr	30°	1.4V	1.7V	880nm	A
INFRARED	3	E23	T-1 <sup>3/4</sup>	Clear	8.0mW/sr	20.0mW/sr	30°	1.2V	1.5V	940nm	B
INFRARED	4	E24	T-1 <sup>3/4</sup>	Trans.Blue	5.0mW/sr	20.0mW/sr	30°	1.4V	1.7V	880nm	B



## T-1<sup>3/4</sup> LEDs with Resistor - 5V

	Line No.	Part No.	Lens	Voltage Range		Luminous Intensity at 5VDC		Viewing Angle 2θ <sup>1/2</sup>	Current Range at 5VDC		Peak Wave Length at 5VDC	Drawing
				Minimum	Maximum	Minimum	Maximum		Minimum	Maximum		
● RED	5	E304-5V	Diffused	4.0VDC	6.0VDC	100mcd	300mcd	60°	8mA	15.5mA	660nm	C
● RED	6	E148-5V	Diffused	4.0VDC	6.0VDC	5mcd	30mcd	60°	8mA	15.5mA	625nm	C
● YELLOW	7	E149-5V	Diffused	4.0VDC	6.0VDC	5mcd	20mcd	60°	8mA	15.5mA	590nm	C
● GREEN	8	E151-5V	Clear	4.0VDC	6.0VDC	20mcd	150mcd	30°	8mA	15.5mA	565nm	C
● GREEN	9	E150-5V	Diffused	4.0VDC	6.0VDC	5mcd	20mcd	60°	8mA	15.5mA	565nm	C



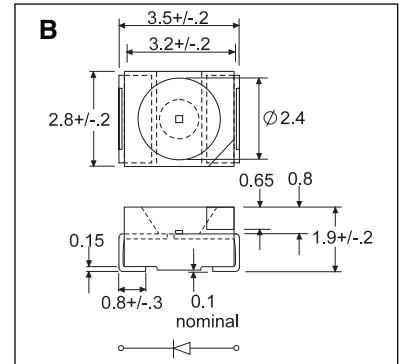
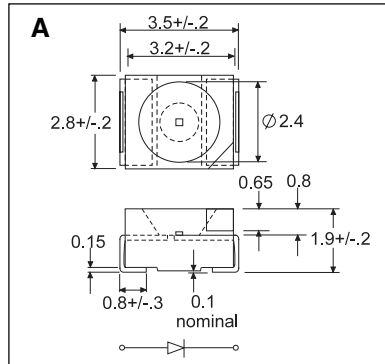
## T-1<sup>3/4</sup> LEDs with Resistor - 12V

	Line No.	Part No.	Lens	Voltage Range		Luminous Intensity at 12VDC		Viewing Angle 2θ <sup>1/2</sup>	Current Range at 12VDC		Peak Wave Length at 12VDC	Drawing
				Minimum	Maximum	Minimum	Maximum		Minimum	Maximum		
● RED	10	E304-12V	Diffused	9.5VDC	13.0VDC	100mcd	300mcd	60°	8mA	15.5mA	660nm	D
● YELLOW	11	E149-12V	Diffused	9.5VDC	13.0VDC	5mcd	15mcd	60°	8mA	15.5mA	590nm	D
● GREEN	12	E151-12V	Diffused	9.5VDC	13.0VDC	12mcd	20mcd	60°	8mA	15.5mA	565nm	D

Telephone: 781-935-4442  
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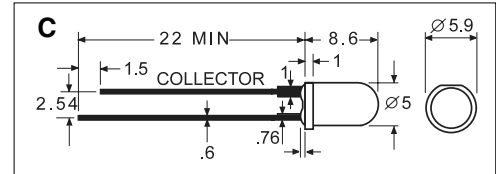
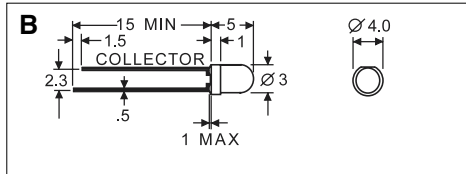
**Gilway**  
Technical Lamp  
Engineering Catalog 199



## Surface Mount Infrared LEDs: 880nm, 940nm

	Line No.	Part No.	Lens	Radiant Power at 20mA		Viewing Angle 2θ½	Forward Voltage at 20mA		Peak Wave Length at 20mA	Drawing
				Minimum	Maximum		Typical	Maximum		
INFRARED	1	E25A	Clear	1.25mW/sr	5.0mW/sr	120°	1.2V	1.5V	940nm	A
INFRARED	2	E26A	Translucent Blue	1mW/sr	5.0mW/sr	120°	1.4V	1.7V	880nm	B

Tape & Reel packaging is standard, 1,500 LEDs per reel.  
 Recommended soldering pad, see page 84, number 4.



## Phototransistors

Line No.	Part No.	Size	Light Current $I_L$ $V_{CE}=5V$ $H=1mW/cm^2$		Dark Current $I_D$ $V_{CE}=10$ $H=0$	Collector to Emitter Breakdown Voltage BRCEO $I_C=100\mu A$ $H=0$	Emitter to Collector Breakdown Voltage BRECO $I_C=100\mu A$ $H=0$	Collector to Emitter Saturation Voltage $V_{CE(sat)}$ $I_C=0.1mA$ $H=2.5mW/cm^2$	Drawing
			Minimum	Maximum	Maximum	Minimum	Minimum	Maximum	
3	D40	T-1	1.0mA	2.0mA	100nA	30.0V	5.0V	0.8V	B
4	D41	T-1 $\frac{3}{4}$	1.0mA	2.0mA	100nA	30.0V	5.0V	0.8V	C