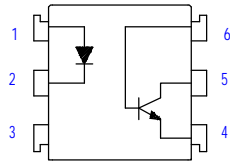


Schematic:



For dimensions and pin-outs, see the last page of this document.

Features:

1. Current transfer ratio  
(CTR 100-200% at  $I_F=10\text{mA}$   $V_{CE}=10\text{V}$ )
2. High isolation voltage between input and output  
( $V_{iso} = 5300\text{Vrms}, 7500\text{Vpk}$ ).

Ordering:

Suffix to Standard Part Number

- V = VDE Compliant
- G = 10mm Lead Spread
- S = Surface Mount Lead-form
- T = Tape & Reel

Superior OPTO Part Number:

**OPTO611**

Absolute Maximum Ratings:

Parameter		Symbol	Rating	Unit
Input	Peak forward current	$I_{FM}$	1	A
	Reverse voltage	$V_R$	6	V
	Power dissipation	$P_D$	70	mW
	Collector-emitter voltage	$V_{CEO}$	90	V
Output	Emitter-collector voltage	$V_{ECO}$	6	V
	Collector-base voltage	$V_{CBO}$	60	V
	Emitter-base voltage	$V_{EBO}$	6	V
	Collector current	$I_C$	50	mA
	Collector power dissipation	$P_C$	150	mW
	Total power dissipation	$P_{tot}$	200	mW
	Isolation voltage 1 minute	$V_{iso}$	5300	Vrms
	$V_{iso}$	7500	Vpk	
Operating temperature		$T_{opr}$	-55 to +100	°C
Storage temperature		$T_{stg}$	-55 to +125	°C
Soldering Temperature 10 seconds		$T_{sol}$	260	°C

Electrical Characteristics:

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	$V_F$	$I_F=20\text{mA}$	-	1.2	1.4	V
	Peak forward voltage	$V_{FM}$	$I_{FM}=0.5\text{A}$	-	-	3.5	V
	Reverse current	$I_R$	$V_R=4\text{V}$	-	-	10	µA
	Terminal capacitance	$C_t$	$V=0, f=1\text{kHz}$	-	30	-	pF
Output	Collector dark current	$I_{CEO}$	$V_{CE}=20\text{V}$	-	-	0.1	µA
Transfer characteristics	Current transfer ratio	CTR	$I_F=10\text{mA}, V_{CE}=10\text{V}$	100	-	200	%
	Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_F=10\text{mA}, I_C=2.5\text{mA}$	-	-	0.4	V
	Isolation resistance	$R_{iso}$	DC500V	$5 \times 10^{10}$	$10^{11}$	-	ohm
	Floating capacitance	$C_f$	$V=0, f=1\text{MHz}$	-	0.6	1.0	Pf
	Cut-off frequency	$f_c$	$V_{CC}=5\text{V}, I_C=2\text{mA}, R_L=100\text{ohm}$	-	80	-	kHz
	Response time (Rise)	$t_r$	$V_{CE}=2\text{V}, I_C=2\text{mA}, R_L=100\text{ohm}$	-	5	20	µs
	Response time (Fall)	$t_f$		-	4	20	µs

Fig. 1 Current Transfer Ratio  
 Vs. Forward Current

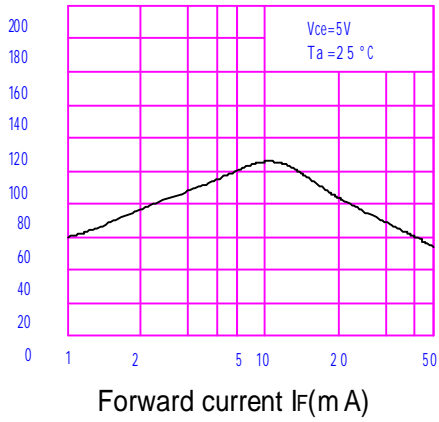


Fig.2 Collector Power Dissipation  
 vs. Ambient Temperature

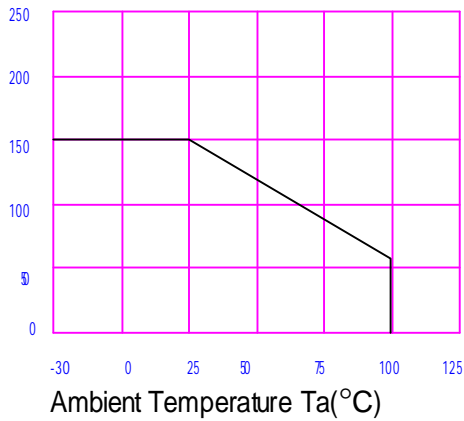


Fig.3 Collector Dark Current vs.  
 Ambient Temperature

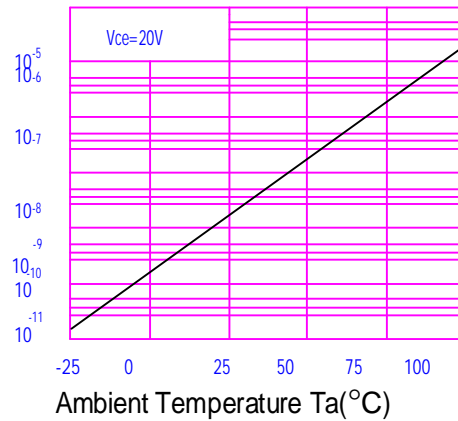


Fig.4 Forward Current vs.  
 Ambient Temperature

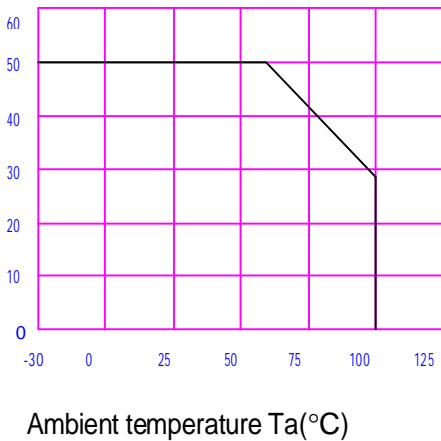


Fig.5 Forward Current vs.  
 Forward Voltage

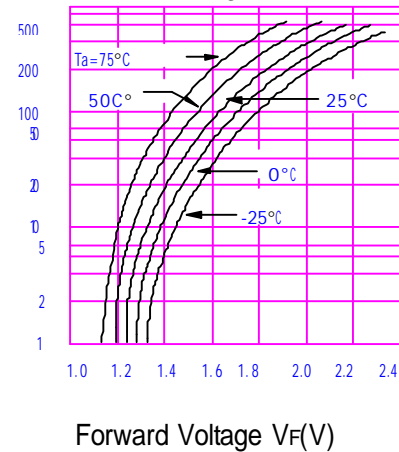
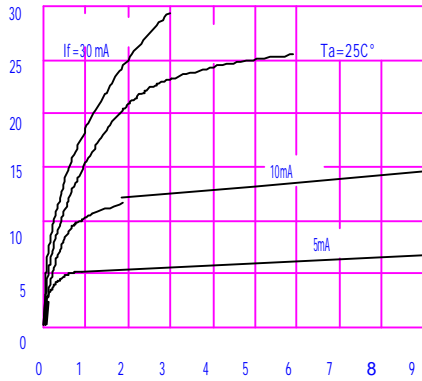


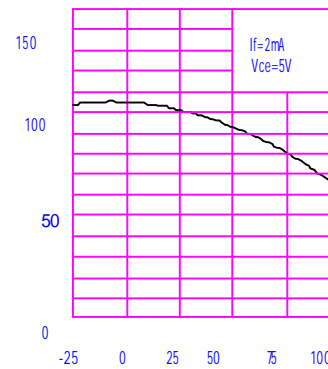
Fig.6 Collector Current vs.

Collector-emitter Voltage



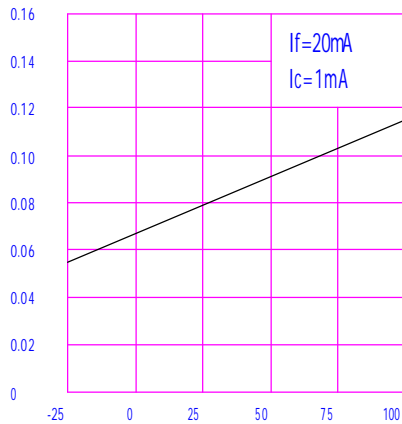
Collector-emitter Voltage  $V_{CE}$  (V)

Fig.7 Relative Current Transfer Ratio



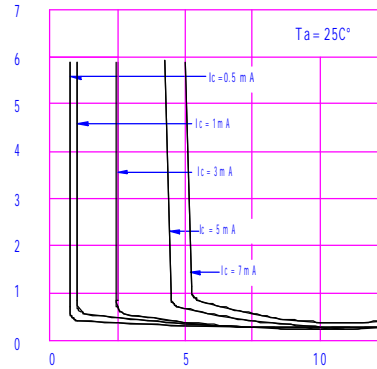
Ambient Temperature  $T_a$  (°C)

Fig.8 Collector-emitter Saturation Voltage vs. Ambient Temperature



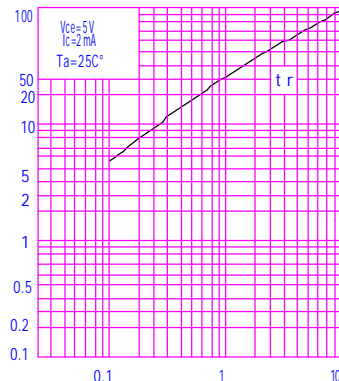
Ambient Temperature  $T_a$  (°C)

Fig.9 Collector-emitter Saturation Voltage vs. Forward Current



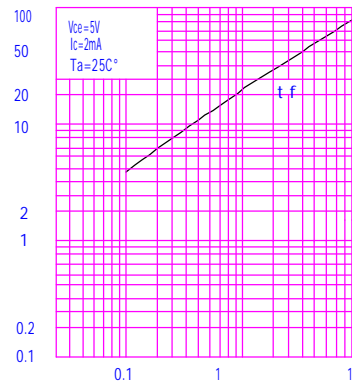
Forward Current  $I$  (mA)

Fig.10 Response Time vs. Load Resistance



Load Resistance  $R_L$  (Kohm)

Fig.11 Response Time vs. Load Resistance



Load Resistance  $R_L$  (Kohm)

Fig.4 : 6-pin DIP type

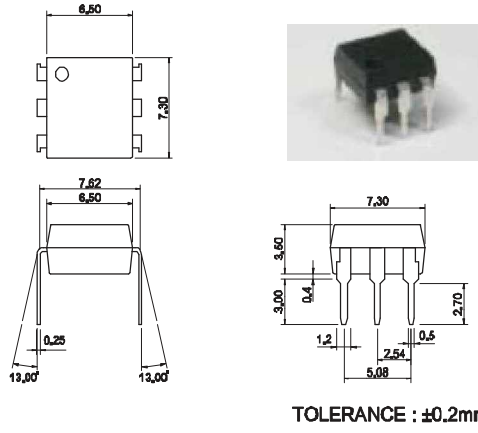


Fig.5 : 6-pin SMD type

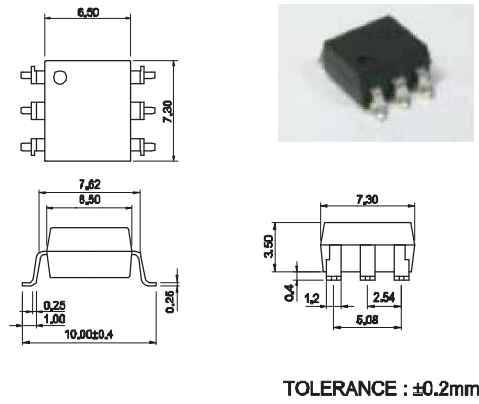
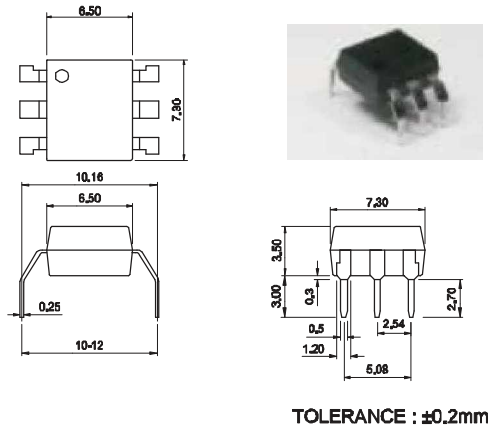


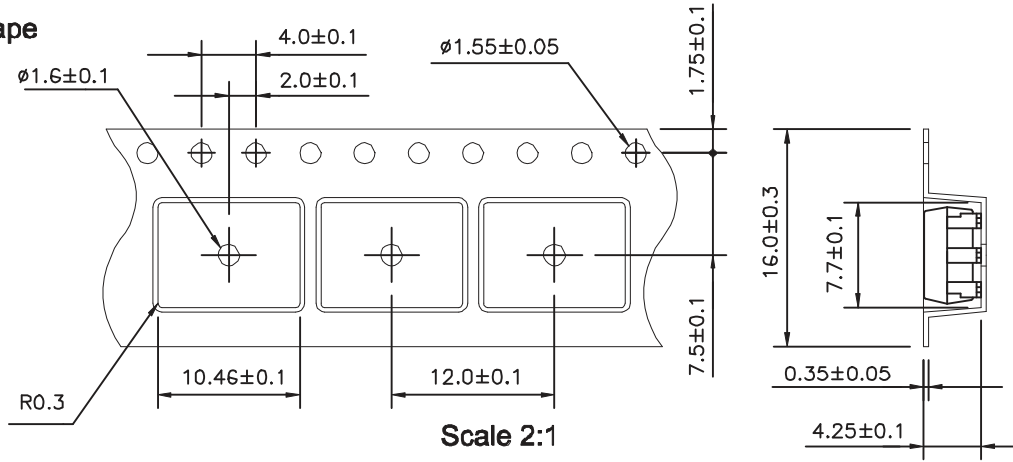
Fig.6 : 6-pin G type



6-pin SMD Carrier Tape & Reel

Unit:mm

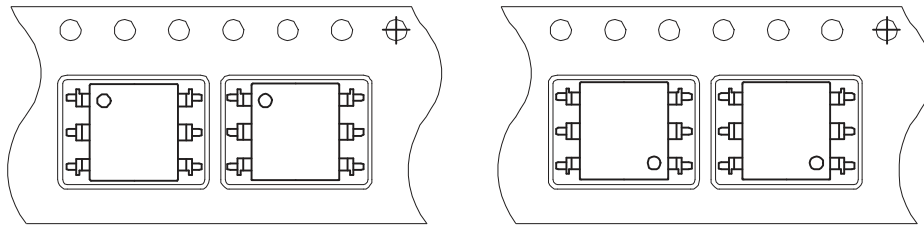
Tape



Scale 2:1

Material : PS

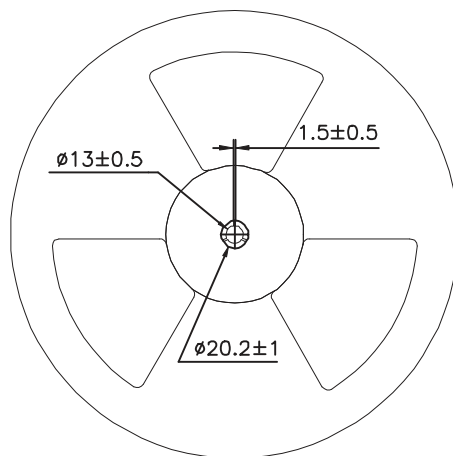
Direction



TL

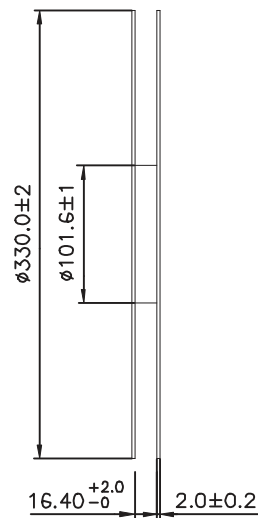
TR

Reel



Scale 1:5

Material : PVC



Packing:1000pcs/reel