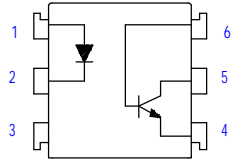




Schematic:



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

Features:

1. Current transfer ratio  
(CTR min 20% at IF=10mA Vce=1V)
2. High isolation voltage between input and output  
(Viso = 5300Vrms, 7500Vpk).

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	IFM	1	A
	Reverse voltage	VR	6	V
	Power dissipation	PD	70	mW
	Collector-emitter voltage	VCEO	30	V
Output	Emitter-collector voltage	VECO	6	V
	Collector-base voltage	VCBO	60	V
	Emitter-base voltage	VEBO	6	V
	Collector current	IC	50	mA
	Collector power dissipation	PC	150	mW
	Total power dissipation	Ptot	200	mW
Isolation voltage 1 minute		Viso	5300	Vrms
		Viso	7500	Vpk
Operating temperature		Topr	-55 to +100	°C
Storage temperature		Tstg	-55 to +125	°C
Soldering Temperature 10 seconds		Tsol	260	°C

Electrical Characteristics:

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	VF	IF=20mA	-	1.2	1.4	V
	Peak forward voltage	VFM	IFM=0.5A	-	-	3.5	V
	Reverse current	IR	VR=4V	-	-	10	uA
	Terminal capacitance	Ct	V=0, f=1KHZ	-	30	-	pF
Output	Collector dark current	ICEO	VCE=20V	-	-	0.1	uA
Transfer characteristics	Current transfer ratio	CTR	IF=10mA, VCE=1V	20	-	-	%
	Collector-emitter saturation voltage	VCE(sat)	IF=20mA, IC=4mA	-	-	1.0	V
	Isolation resistance	Riso	DC500V	5x10 <sup>10</sup>	10 <sup>11</sup>	-	ohm
	Floating capacitance	Cf	V=0, f=1MHZ	-	0.6	1.0	Pf
	Cut-off frequency	fc	Vcc=5V, Ic=2mA, RL=100ohm	-	80	-	kHz
	Response time (Rise)	tr	Vce=2V, Ic=2mA, RL=100ohm	-	5	20	us
Response time (Fall)	tf		-	4	20	us	

Fig. 1 Current Transfer Ratio  
 Vs. Forward Current

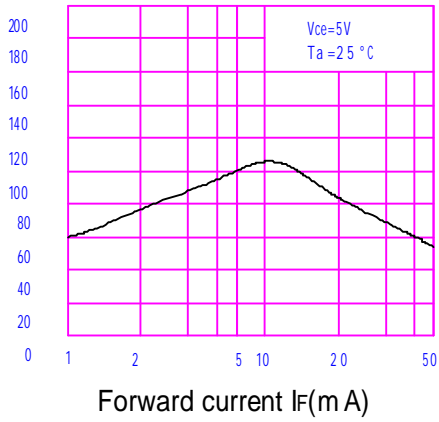


Fig.2 Collector Power Dissipation  
 vs. Ambient Temperature

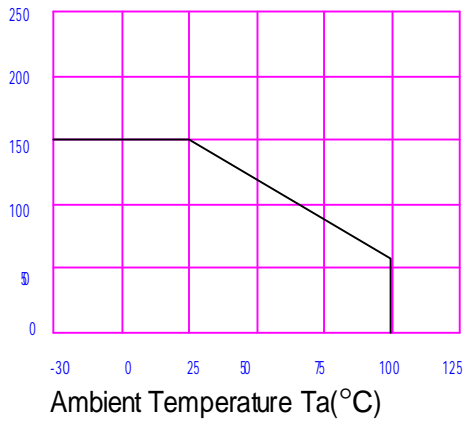


Fig.3 Collector Dark Current vs.  
 Ambient Temperature

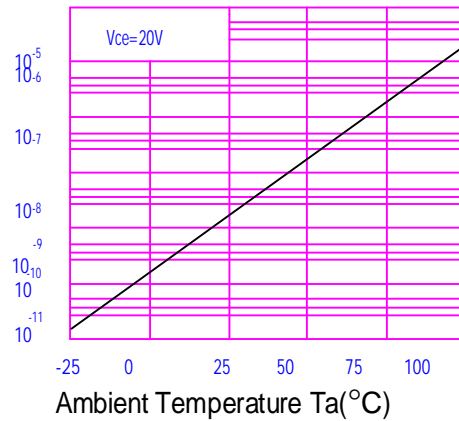


Fig.4 Forward Current vs.  
 Ambient Temperature

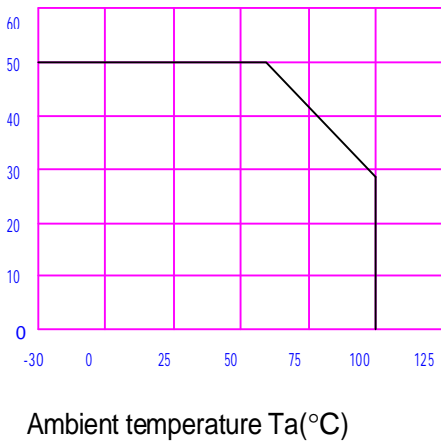


Fig.5 Forward Current vs.  
 Forward Voltage

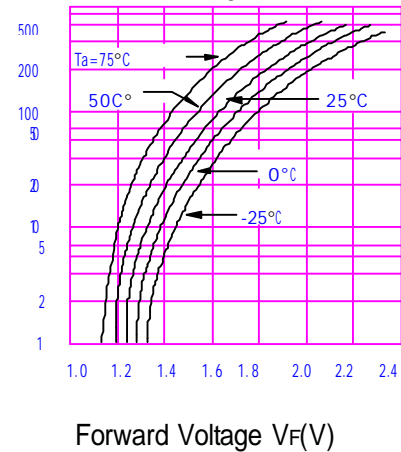
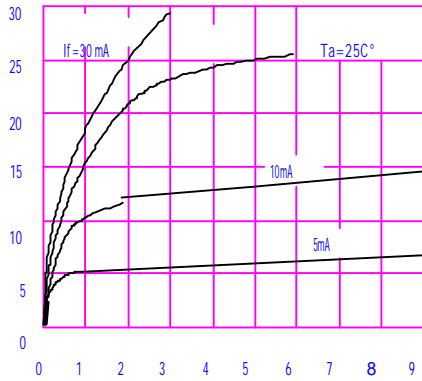


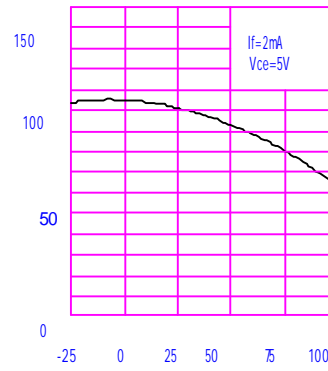
Fig.6 Collector Current vs.

Collector-emitter Voltage



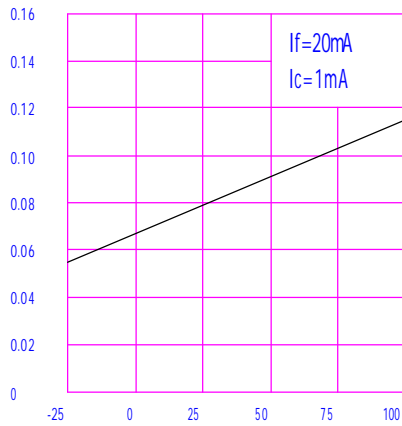
Collector-emitter Voltage  $V_{CE}$  (V)

Fig.7 Relative Current Transfer Ratio



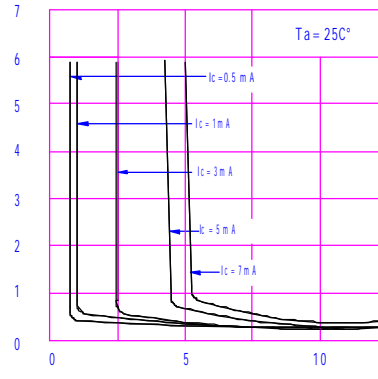
Ambient Temperature  $T_a$  (°C)

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



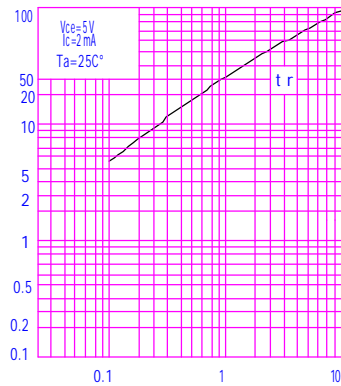
Ambient Temperature  $T_a$  (°C)

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



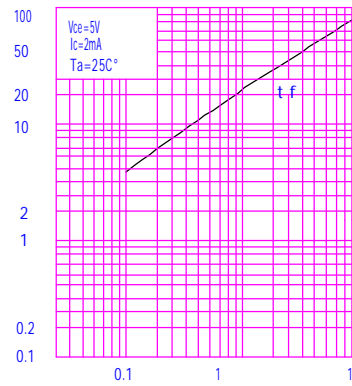
Forward Current  $I$  (mA)

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

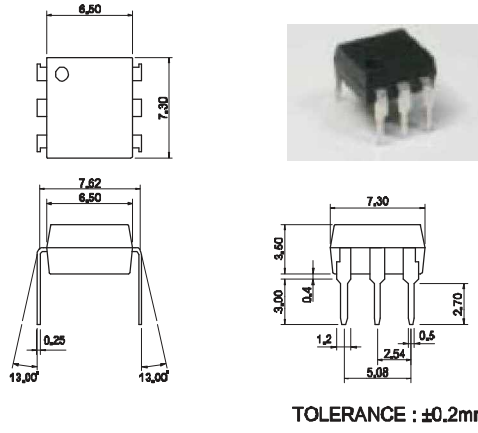


Fig.5 : 6-pin SMD type

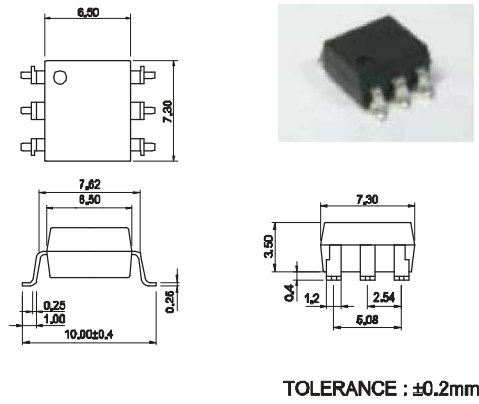
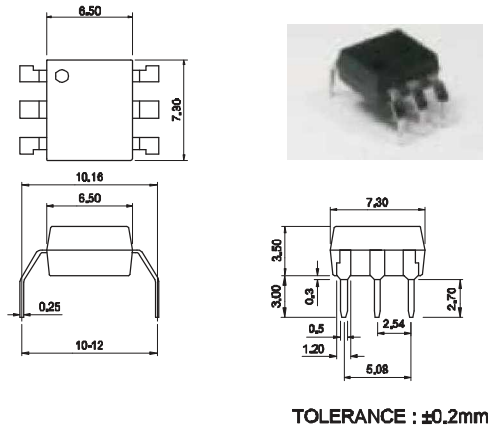


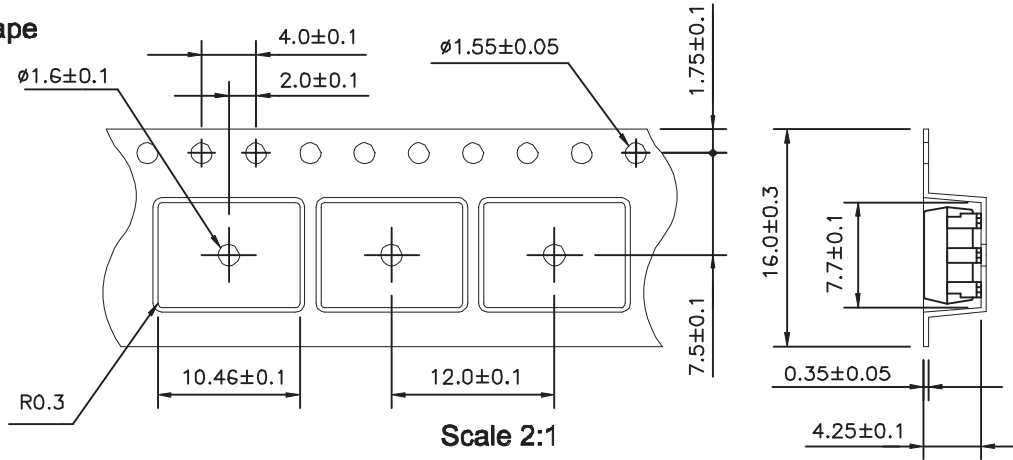
Fig.6 : 6-pin G type



6-pin SMD Carrier Tape & Reel

Unit:mm

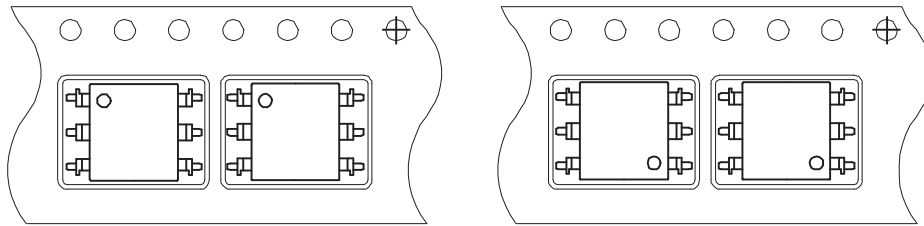
Tape



Scale 2:1

Material : PS

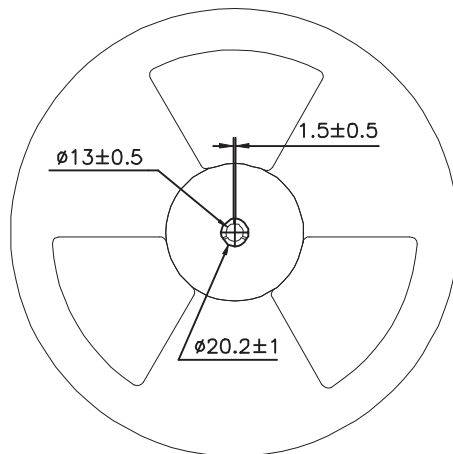
Direction



TL

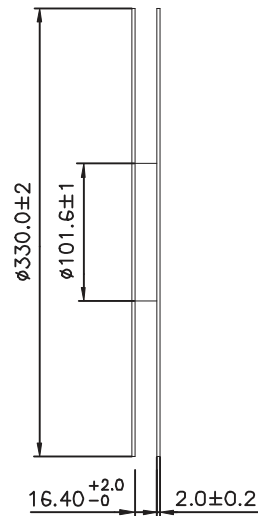
TR

Reel



Scale 1:5

Material : PVC



Packing:1000pcs/reel