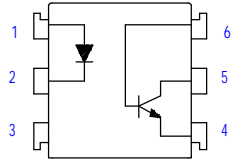




Schematic:



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

Features:

1. Current transfer ratio
(CTR min 100% at IF=10mA Vce=10V)
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=5V	100	-	-	%
	Collector-emitter saturation voltage	VCE(sat)	IF=10mA, IC=0.5mA	-	-	0.3	V
	Isolation resistance	Riso	DC500V	5x10 ¹⁰	10 ¹¹	-	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

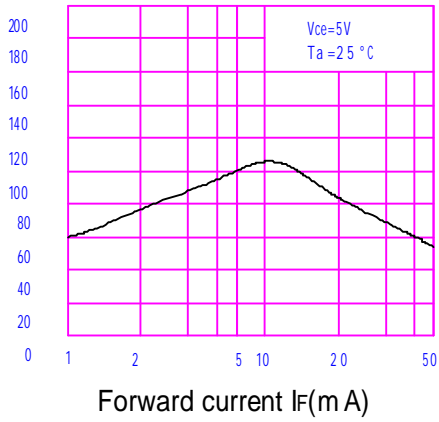


Fig.2 Collector Power Dissipation
 vs. Ambient Temperature

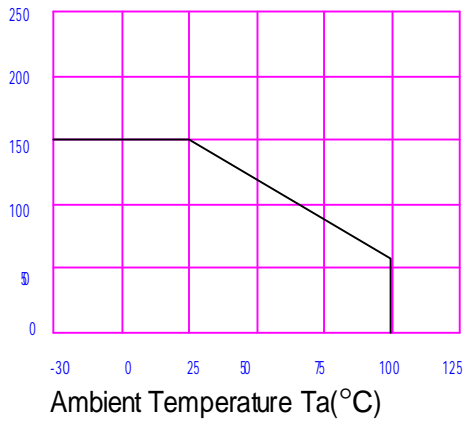


Fig.3 Collector Dark Current vs.
 Ambient Temperature

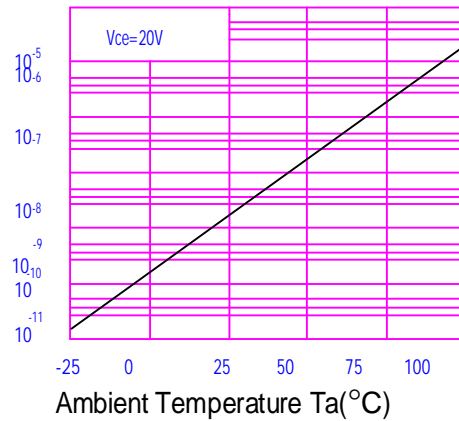


Fig.4 Forward Current vs.
 Ambient Temperature

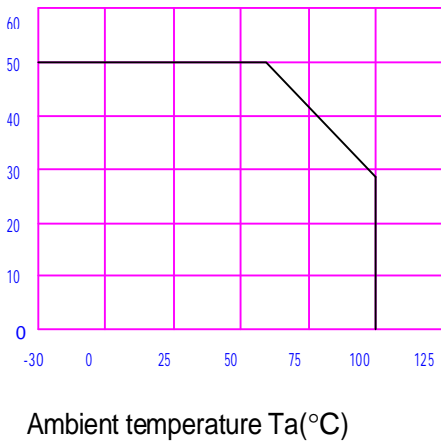


Fig.5 Forward Current vs.
 Forward Voltage

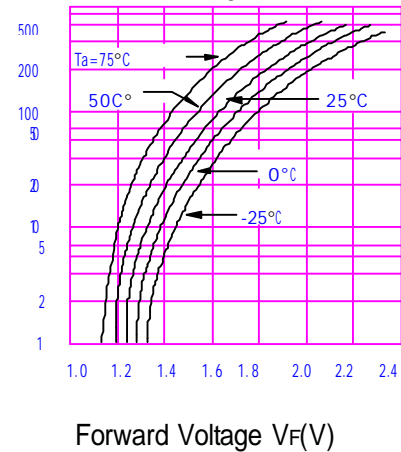
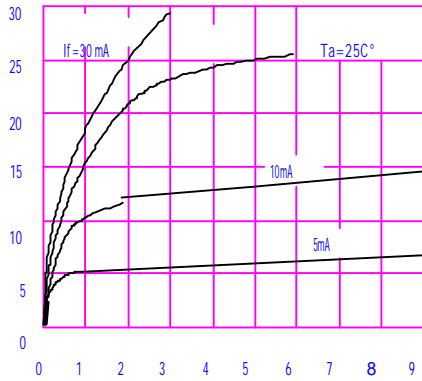


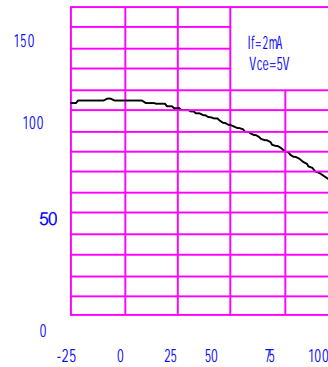
Fig.6 Collector Current vs.

Collector-emitter Voltage



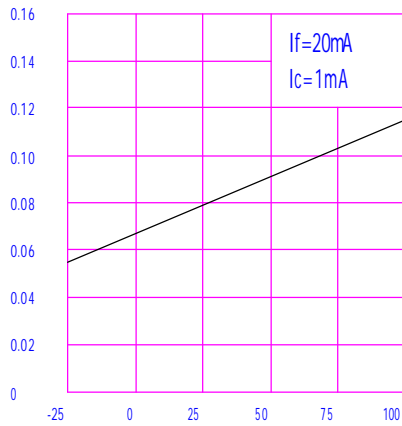
Collector-emitter Voltage V_{CE} (V)

Fig.7 Relative Current Transfer Ratio



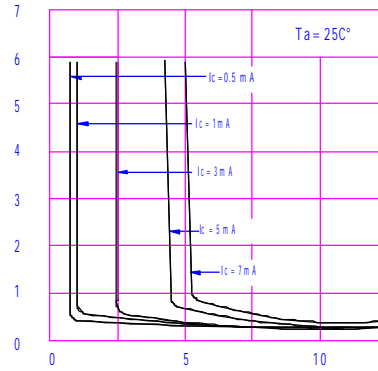
Ambient Temperature T_a (°C)

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



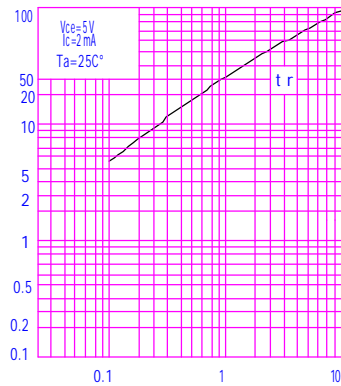
Ambient Temperature T_a (°C)

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



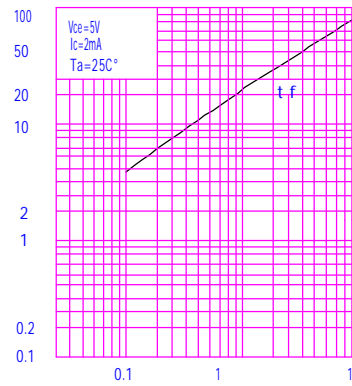
Forward Current I (mA)

Fig.10 Response Time vs. Load Resistance



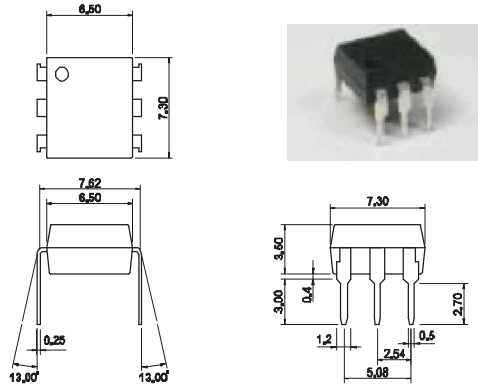
Load Resistance R_L (Kohm)

Fig.11 Response Time vs. Load Resistance



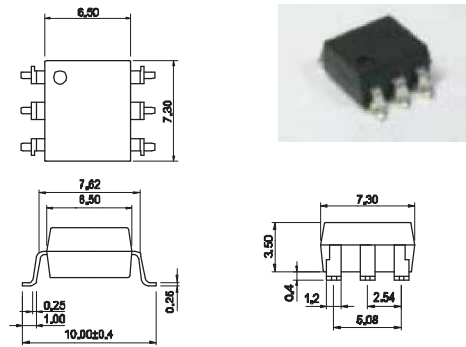
Load Resistance R_L (Kohm)

Fig.4 : 6-pin DIP type



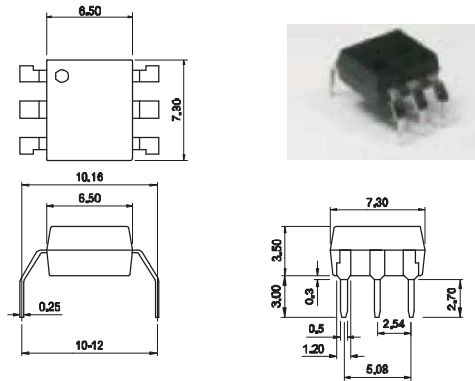
TOLERANCE : $\pm 0.2\text{mm}$

Fig.5 : 6-pin SMD type



TOLERANCE : $\pm 0.2\text{mm}$

Fig.6 : 6-pin G type

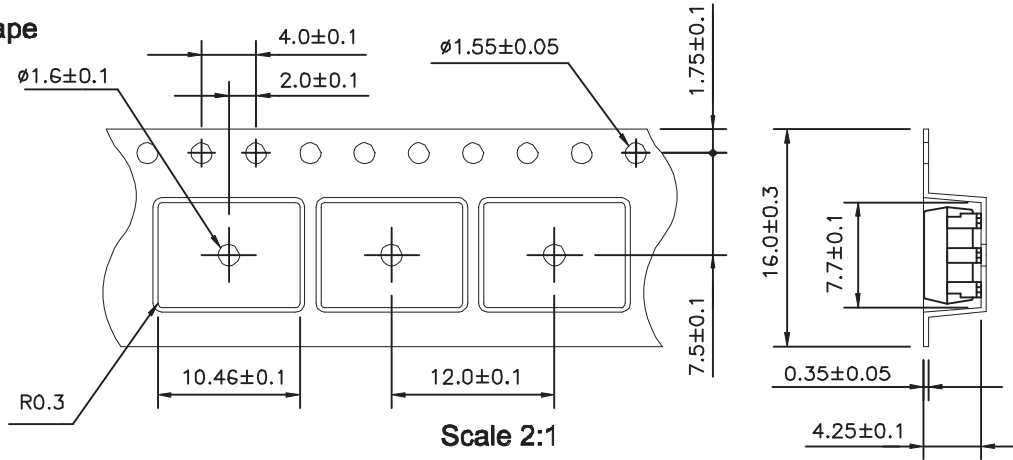


TOLERANCE : $\pm 0.2\text{mm}$

6-pin SMD Carrier Tape & Reel

Unit:mm

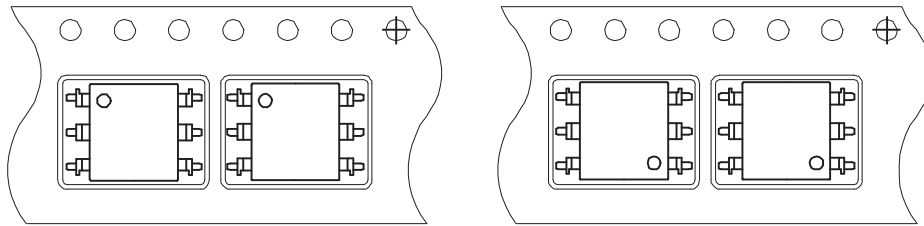
Tape



Scale 2:1

Material : PS

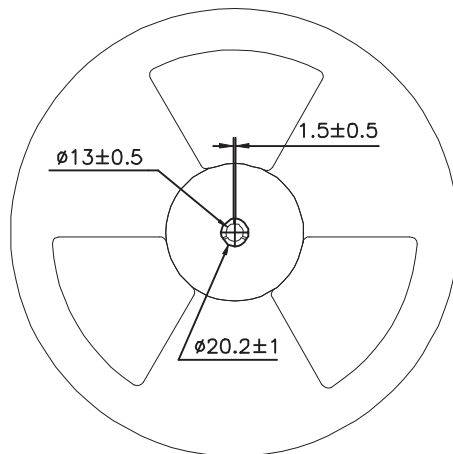
Direction



TL

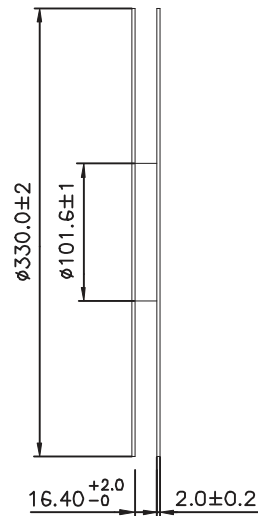
TR

Reel



Scale 1:5

Material : PVC



Packing:1000pcs/reel