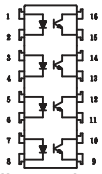
Schematic:



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

Features:

1. Current transfer ratio
   (CTR:MIN 100% at IF=5mA Vce=5V)
2. High isolation voltage between input and output
   (Viso:5300Vrms).
3. Compact dual-in-line package.

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:

OPTO161

Absolute Maximum Ratings:

(Ta=25°C)

Parameter		Symbol	Rating	Unit
Input	Forward current	IF	50	mA
	Peak forward current	IFM	1	A
	Reverse voltage	VR	6	V
	Power dissipation	PD	70	mW
Output	Collector-emitter voltage	VCEO	35	V
	Emitter-collector voltage	VECO	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
Operating temperature		Topr	-55 to +100	°C
Storage temperature		Tstg	-55 to +125	°C
Soldering temperature 10 second		Tsol	260	°C

Electrical Characteristics:

(Ta=25°C)

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	—	—	3.0	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 charac-teristics	Current transfer ratio	CTR	IF =5mA, VCE=5V	100	—	—	%
	Collector-emitter saturation voltage	VCE(sat)	IF=5mA, IC=1mA	—	—	0.4	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
	Respone time(Rise)	tr	VCE=2V, IC=2mA, RL=100ohm	—	4	18	us
	Respone time(Fall)	tf		—	3	18	us

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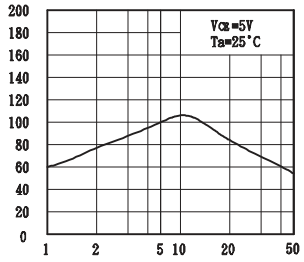
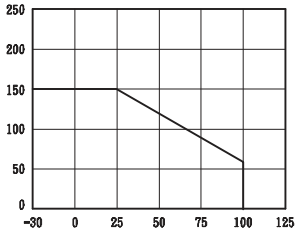
Fig.1 Current Transfer Ratio vs. Forward Current



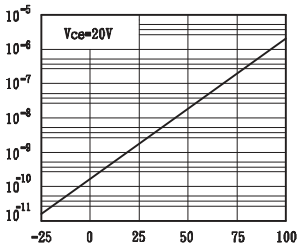
Forward Current IF (mA)

Fig.2 Collector Power Dissipation vs. Ambient Temperature



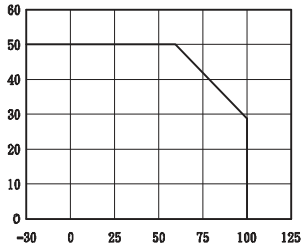
Ambient Temperature Ta (°C)

Fig.3 Collector Dark Current vs. Ambient Temperature



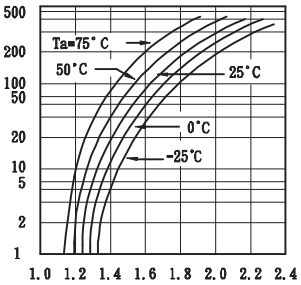
Ambient Temperature Ta (°C)

Fig.4 Forward Current vs. Ambient Temperature



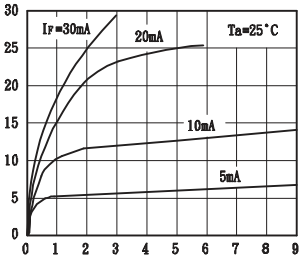
Ambient Temperature Ta (°C)

Fig.5 Forward Current vs. Forward Voltage



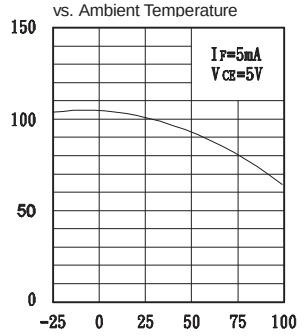
Forward Voltage VF (V)

Fig.6 Collector Current vs. Collector-emitter Voltage



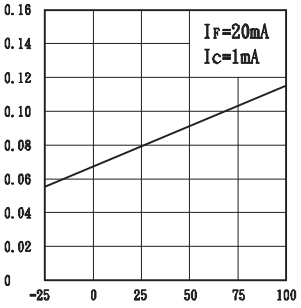
Collector-emitter Voltage VCE (V)

Fig.7 Relative Current Transfer Ratio vs. Ambient Temperature



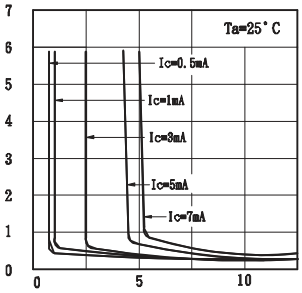
Ambient Temperature Ta (°C)

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



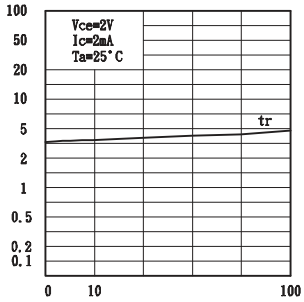
Ambient Temperature Ta (°C)

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



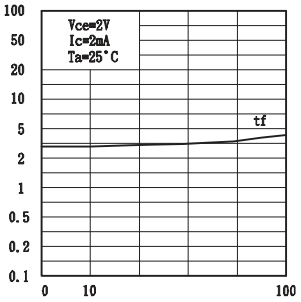
Forward Current IF(mA)

Fig.10 Response Time vs. Load Resistance



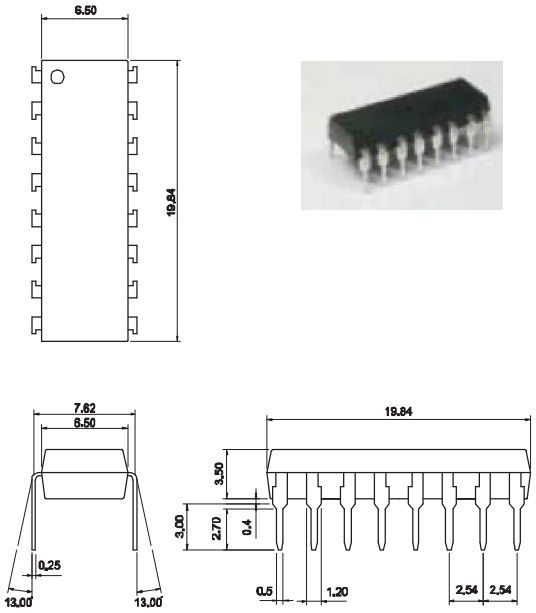
Load Resistance RL(ohm)

Fig.11 Response Time vs. Load Resistance



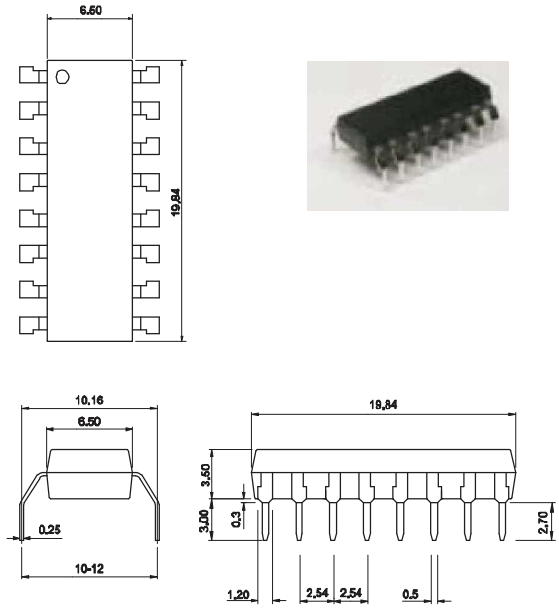
Load Resistance RL(ohm)

Fig.10 : 16-pin DIP type



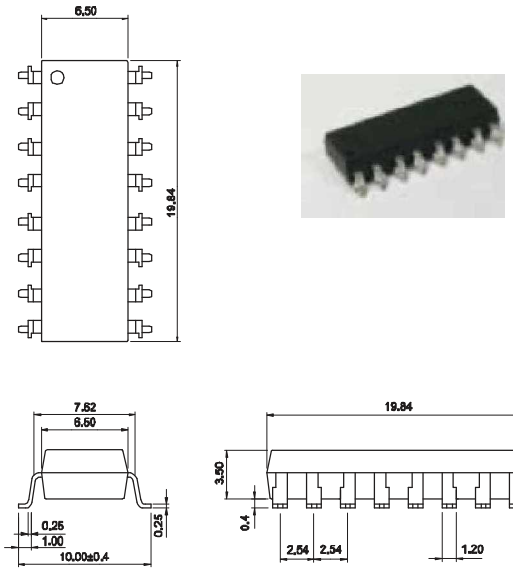
TOLERANCE : ±0.2mm

Fig.12 : 16-pin G type



TOLERANCE : ±0.2mm

Fig.11 : 16-pin SMD type



TOLERANCE : ±0.2mm

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