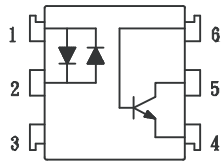
Schematic:



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

Features:

1. Current transfer ratio
   (CTR:MIN.50% at IF=10mA, Vce=10V)
2.. High isolation voltage between input and output (Viso:5300Vrms).
3. AC input.

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:

OPTO641

Absolute Maximum Ratings:

(Ta=25°C)

Parameter		Symbol	Rating	Unit
Input	Forward current	IF	±50	mA
	Peak forward current	IFM	±1	A
	Power dissipation	PD	70	mW
Output	Collector-emitter voltage	VCEO	30	V
	Emitter-collector voltage	VECO	6	V
	Collector-base voltage	VCBO	30	V
	Emitter-base voltage	VEBO	6	V
	Collector current	IC	100	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

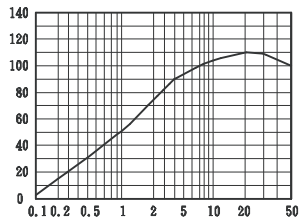
Electrical Characteristics:

(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	—	—	3.5	V
	Terminal capacitance	Ct	V=0, f=1kHz	—	30	—	pF
Output	Collector dark current	ICEO	VCE =20V, IF =0	—	—	0.1	uA
Transfer charac-teristics	Current transfer ratio	CTR	IF =10mA, VCE =10V	50	—	—	%
	Collector-emitter saturation voltage	VCE (sat)	IF =10mA, IC =0.5mA	—	—	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	—	5	20	us
	Respone time (Fall)	tf		—	4	20	us

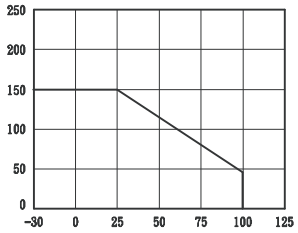
CTR Selections are available upon request

Fig.1 Current Transfer Ratio vs. Forward Current



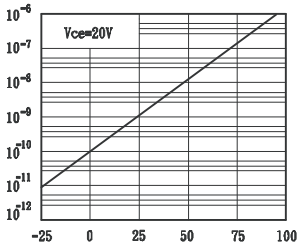
Forward Current I_F (mA)

Fig.2 Collector Power Dissipation vs. Ambient Temperature



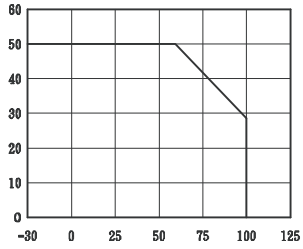
Ambient Temperature Ta (°C)

Fig.3 Collector Dark Current vs. Ambient Temperature



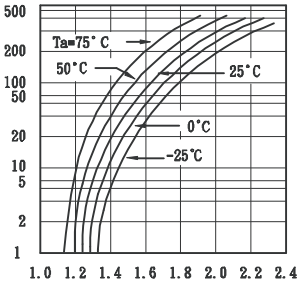
Ambient Temperature Ta (°C)

Fig.4 Forward Current vs. Ambient Temperature



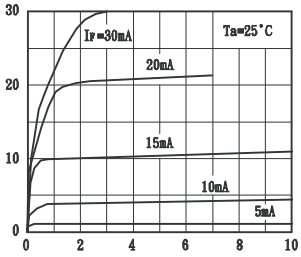
Ambient Temperature Ta (°C)

Fig.5 Forward Current vs. Forward Voltage



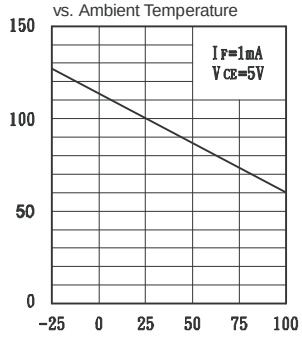
Forward Voltage V_F (V)

Fig.6 Collector Current vs. Collector-emitter Voltage



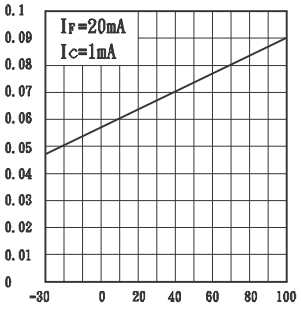
Collector-emitter Voltage V_{CE} (V)

Fig.7 Relative Current Transfer Ratio vs. Ambient Temperature



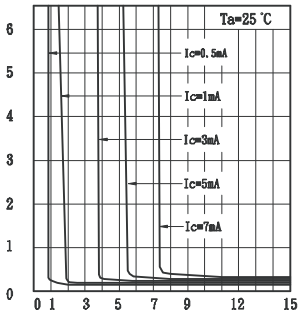
Ambient Temperature Ta (°C)

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



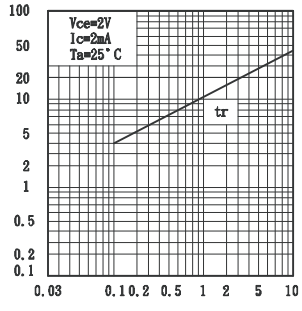
Ambient Temperature Ta (°C)

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



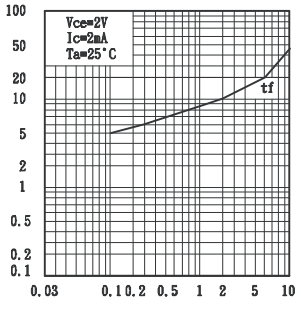
Forward Current I_F (mA)

Fig.10 Response Time vs. Load Resistance



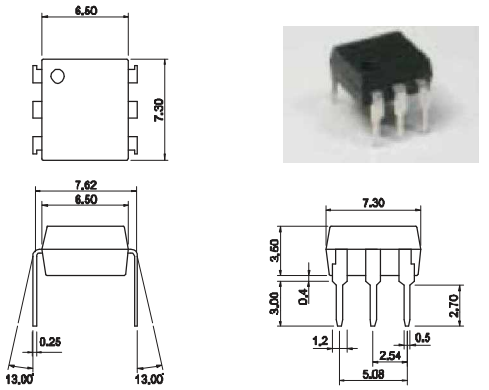
Load Resistance R_L(K ohm)

Fig.11 Response Time vs. Load Resistance



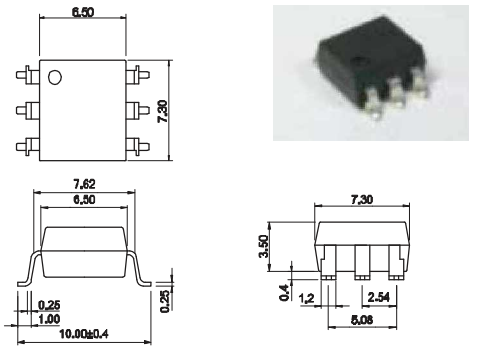
Load Resistance R_L(K ohm)

Fig.4 : 6-pin DIP type



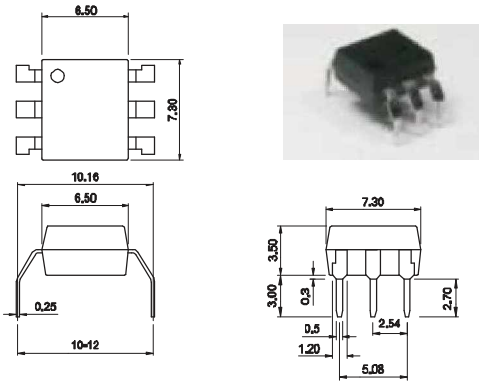
TOLERANCE : ±0.2mm

Fig.5 : 6-pin SMD type



TOLERANCE : ±0.2mm

Fig.6 : 6-pin G type



TOLERANCE : ±0.2mm

