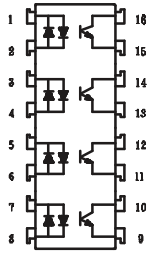


Schematic:



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

Features:

1. Current transfer ratio (CTR:20-300% at $I_F=1\text{mA}$ $V_{ce}=5\text{V}$)
2. High isolation voltage between input and output (Viso:5300Vrms).
3. Compact dual-in-line package.
4. 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:

OPTO161

Absolute Maximum Ratings:

(Ta=25°C)

Parameter	Symbol	Rating	Unit	
Input	Forward current	I_F	± 50	mA
	Peak forward current	I_{FM}	± 1	A
	Power dissipation	P_D	70	mW
Output	Collector-emitter voltage	V_{CEO}	35	V
	Emitter-collector voltage	V_{ECO}	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	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	V_F	$I_F = \pm 20\text{mA}$	—	1.2	1.4	V
	Peak forward voltage	V_{FM}	$I_{FM} = \pm 0.5\text{A}$	—	—	3.5	V
	Terminal capacitance	C_t	$V=0, f=1\text{kHz}$	—	30	—	pF
Output	Collector dark current	I_{CEO}	$V_{CE} = 20\text{V}, I_F = 0$	—	—	0.1	uA
Transfer characteristics	Current transfer ratio	CTR	$I_F = 1\text{mA}, V_{CE} = 5\text{V}$	20	—	300	%
	Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_F = 20\text{mA}, I_C = 1\text{mA}$	—	—	0.2	V
	Isolation resistance	Riso	DC500V	5×10^{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	us
Response time (Fall)	t_f	—		4	20	us	

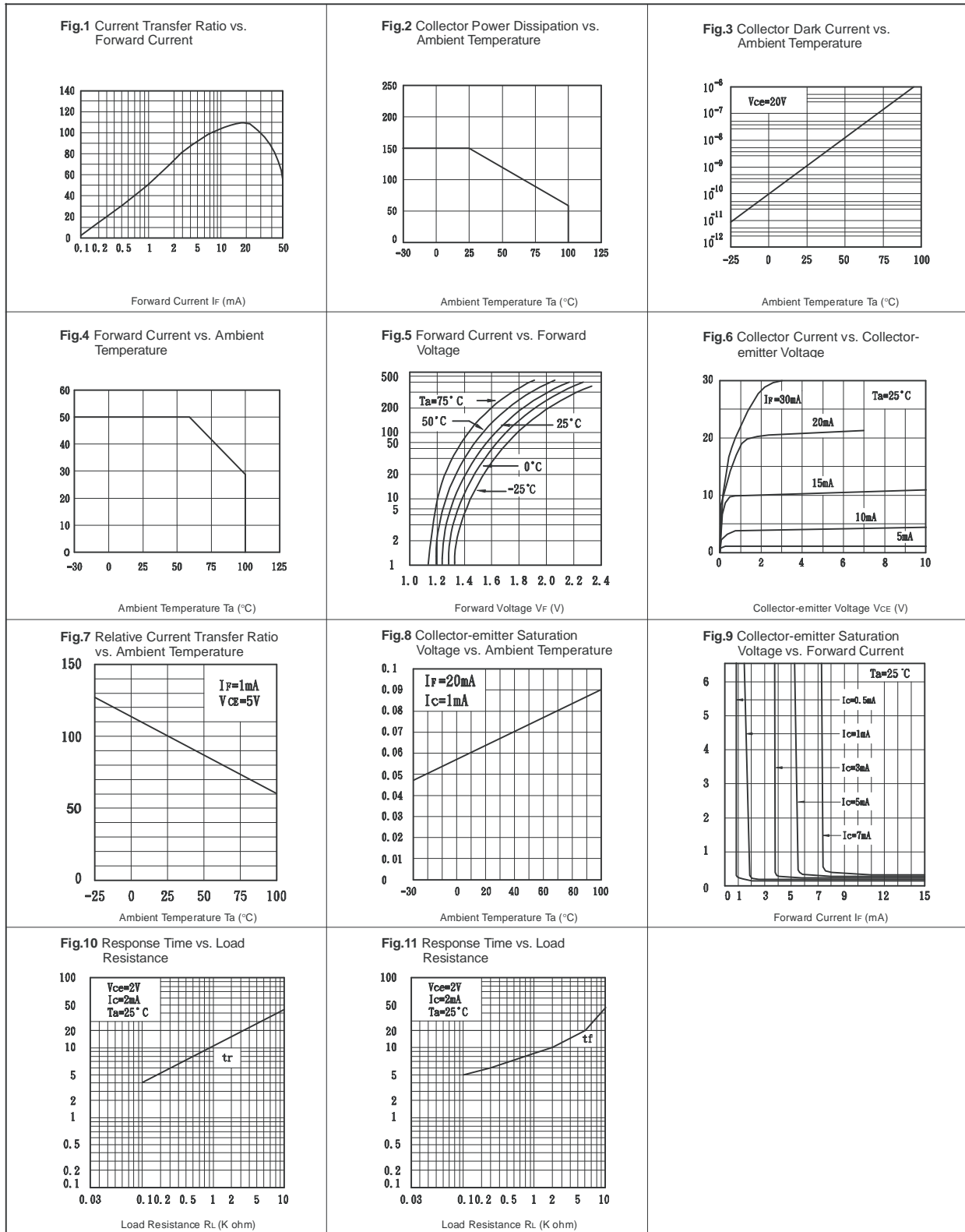
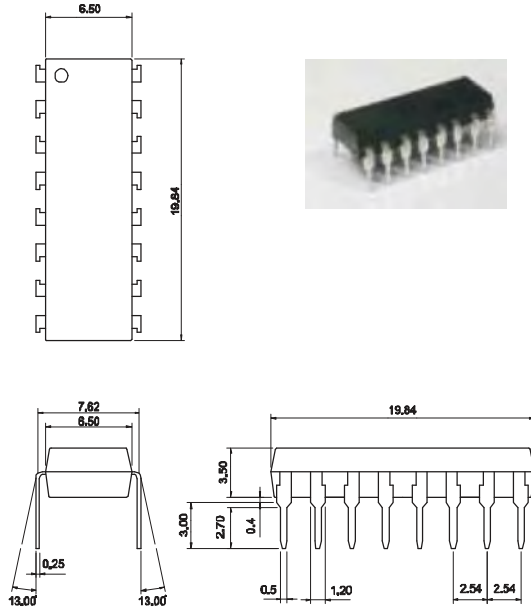
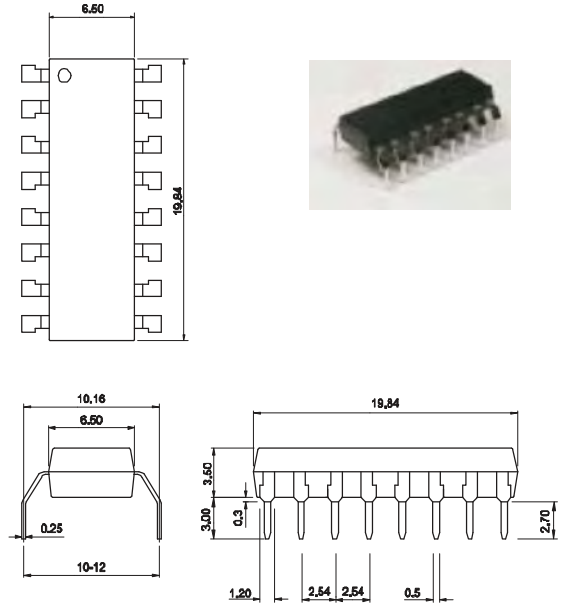


Fig.10 : 16-pin DIP type



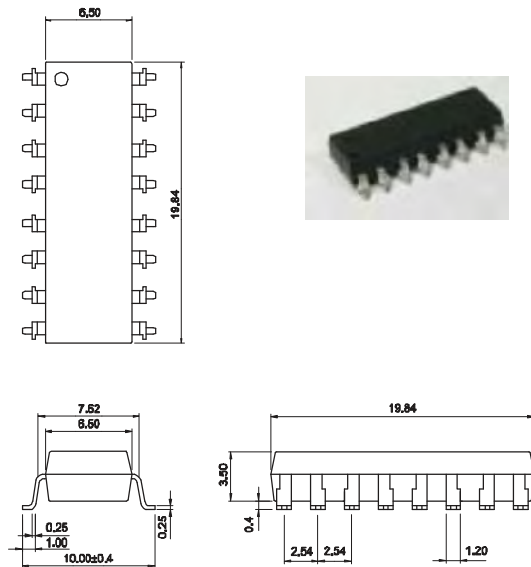
TOLERANCE : ±0.2mm

Fig.12 : 16-pin G type



TOLERANCE : ±0.2mm

Fig.11 : 16-pin SMD type



TOLERANCE : ±0.2mm