cosmo

Compact Surface Mount, High Collector emitter Voltage Type Photo Coupler KPC452

UL 1577 (File No.E169586)

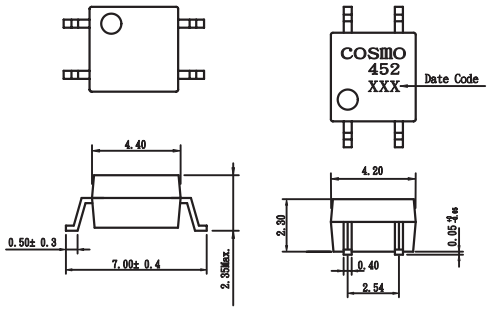
Features

1. Mini-flat package.
2. High collector-emitter voltage
   (V_{CEO}:300V)
3. High current transfer ratio
   (CTR:MIN.1000% at I_F=1mA, V_{CE}:2V)
4. High isolation voltage between input and output
   (Viso:3750Vrms).

Applications

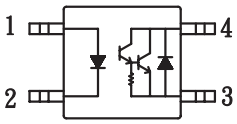
1. Telephone sets.
2. Copiers, facsimiles.
3. Interfaces with various power supply circuits, power distribution boards.
4. Hybrid substrates which reguire high density mounting.

Outside Dimension : Unit (mm)



t=0.254±0.05mm
TOLERANCE :± 0.2mm

Schematic : Top View



1. Anode
2. Cathode
3. Emitter
4. Collector

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	P	70	mW
Output	Collector-emitter voltage	VCEO	300	V
	Emitter-collector voltage	VECO	0.1	V
	Collector current	IC	150	mA
	Collector power dissipation	PC	150	mW
Total power dissipation		Ptot	170	mW
Isolation voltage 1 minute		Viso	3750	Vrms
Operating temperature		Topr	-30 to +100	°C
Storage temperature		Tstg	-40 to +125	°C
Soldering temperature 10 seconds		Tsol	260	°C

Electro-optical Characteristics

(Ta=25°C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V_F	I_F=10mA	—	1.2	1.4	V
	Reverse current	I_R	V_R=4V	—	—	10	uA
	Terminal capacitance	Ct	V=0, f=1kHz	—	30	—	pF
Output	Collector dark current	I_{CEO}	V_{CE}=200V, I_F=0	—	—	1	uA
	Collector-emitter breakdown voltage	BV_{CEO}	I_C=0.1mA, I_F=0	300	—	—	V
Transfer charac-teristics	Current transfer ratio	CTR	I_F=1mA,V_{CE}=2V	1000		—	%
	Collector-emitter saturation voltage	V_{CE} (sat)	I_F=20mA, I_C=100mA	—	—	1.5	V
	Isolation resistance	Riso	DC500V, 40 TO 60%RH	$5X10^{10}$	10^{11}	—	ohm
	Floating capacitance	Cf	V=0, f=1MHZ	—	0.6	1.0	pF
	Respone time (Rise)	tr	V_{CE}=2V, I_C=20mA, R_L=100ohm	—	100	300	us
	Respone time (Fall)	tf		—	20	100	us

Fig.1 Forward Current vs. Ambient Temperature

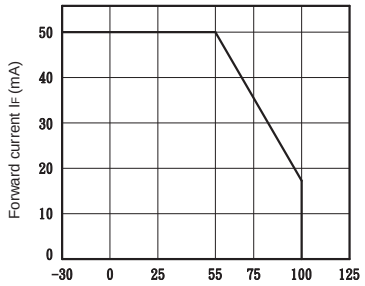


Fig.2 Collector Power Dissipation vs. Ambient Temperature

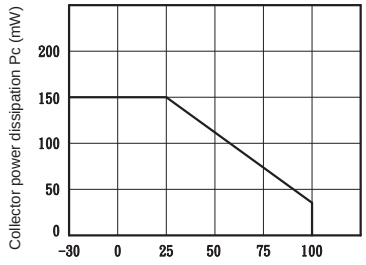


Fig.3 Peak Forward Current vs. Duty Ratio

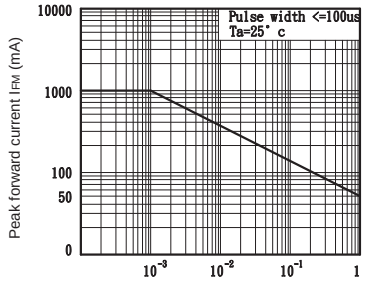


Fig.4 Forward Current vs. Forward Voltage

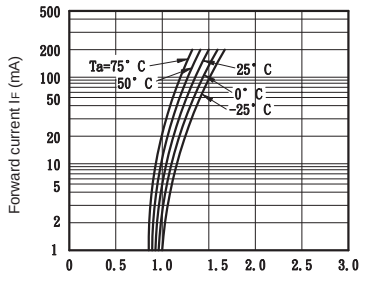


Fig.5 Current Transfer Ratio vs. Forward Current

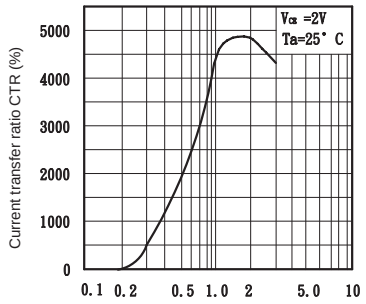


Fig.6 Collector Current vs. Collector-emitter Voltage

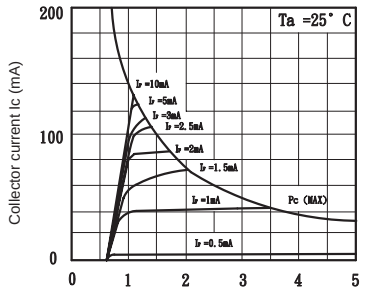


Fig.7 Relative Current Transfer Ratio vs. Ambient Temperature

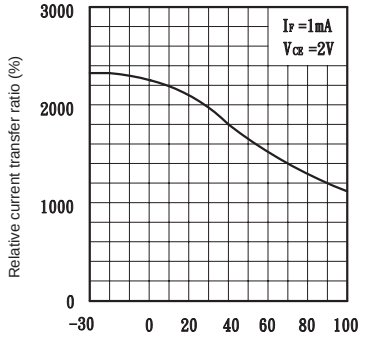


Fig.8 Collector-emitter Saturation Voltage vs. Ambient Temperature

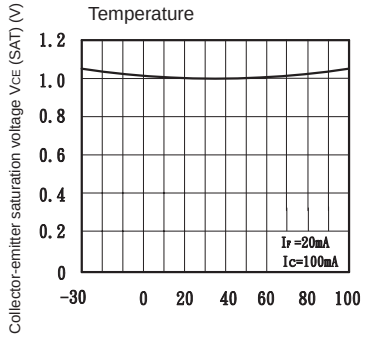


Fig.9 Collector Dark Current vs. Ambient Temperature

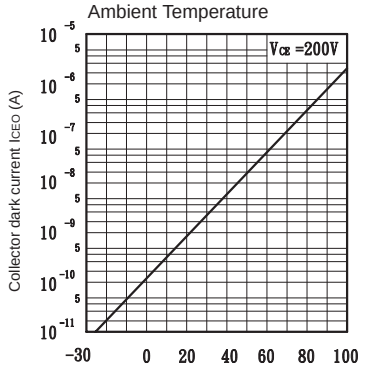


Fig.10 Response Time vs. Load Resistance

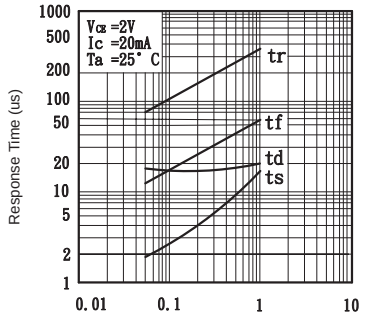


Fig.11 Frequency Response

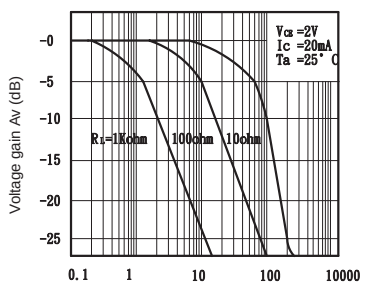


Fig.12 Collector- emitter Saturation Voltage vs. Forward current