

PC512

European Safety Standard Approved Long Creepage Distance Type Photocoupler

■ Features

1. Conform to European Safety Standards

UL file No. E64380

Approved by VDE (DIN VDE0884 : No. 77296)

Approved by BSI

(BS EN60065 IEC65 Test Leaf lets land 5

BS EN60950 IEC950 EN41003 Test Leaflets land 5)

Approved by SEMKO (No. 9303001)

Approved by DEMKO (108025)

Approved by EI (155031-01)

Approved by CSA (CA95323 or CA76261)

2. Long creepage distance type

(Creepage distance : 11.5mm or more)

3. Compact

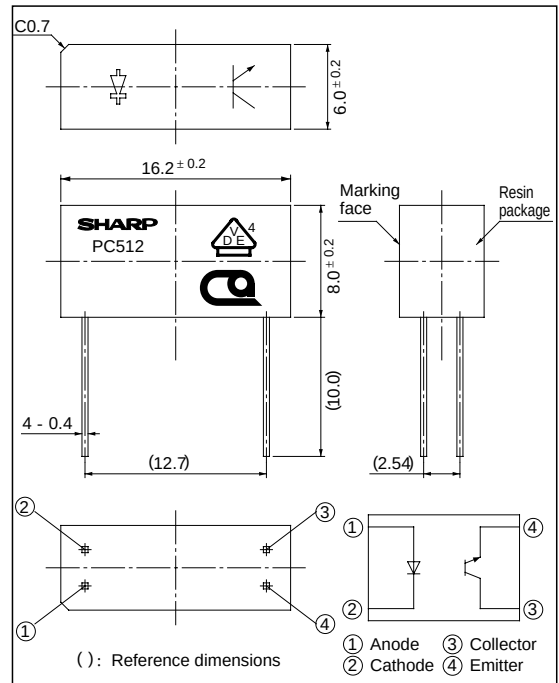
4. High isolation voltage (V_{iso} : 5 000V_{rms})

■ Applications

1. Power supplies

■ Outline Dimensions

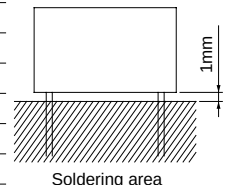
(Unit : mm)



■ Absolute Maximum Ratings

(Ta = 25°C)

	Parameter	Symbol	Rating	Unit
Input	Forward current	I_F	50	mA
	*1 Peak forward current	I_{FM}	1	A
	Reverse voltage	V_R	6	V
	Power dissipation	P	75	mW
Output	Collector-emitter voltage	V_{CEO}	35	V
	Emitter-collector voltage	V_{ECO}	6	V
	Collector current	I_C	20	mA
	Collector power dissipation	P_C	75	mW
	*2 Isolation voltage	V_{iso}	5	kV _{rms}
	Operating temperature	T_{opr}	- 25 to + 85	°C
	Storage temperature	T_{stg}	- 40 to + 100	°C
	*3 Soldering temperature	T_{sol}	260	°C



*1 Pulse width ≤ 100μs Duty ratio : 0.001

*2 AC for 1minute, 40 to 60% RH

*3 For MAX. 10 seconds at the position of 1mm from the edge of resin package.

Electro-optical Characteristics

(Ta= 25°C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V_F	$I_F = 20\text{mA}$	-	1.2	1.4	V
	Peak forward voltage	V_{FM}	$I_{FM} = 0.5\text{A}$	-	3	4	V
	Reverse current	I_R	$V_R = 3\text{V}$	-	-	10	μA
	Terminal capacitance	C_t	$V = 0, f = 1\text{kHz}$	-	50	250	pF
Output	Collector dark current	I_{CEO}	$V_{CE} = 20\text{V}, I_F = 0$	-	-	100	nA
	Collector-emitter breakdown voltage	BV_{CEO}	$I_C = 0.1\text{mA}, I_F = 0$	35	-	-	V
	Emitter-collector breakdown voltage	BV_{ECO}	$I_E = 10\mu\text{A}, I_F = 0$	6	-	-	V
Transfer characteristics	Collector current	I_C	$I_F = 20\text{mA}, V_{CE} = 5\text{V}$	2	-	20	mA
	Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_F = 40\text{mA}, I_C = 1\text{mA}$	-	-	0.4	V
	Isolation resistance	R_{iso}	DC500V, 40 to 60% RH	10^{12}	-	-	Ω
	Cut-off frequency	f_c	$V_{CE} = 2\text{V}, I_C = 2\text{mA}$	12	80	-	kHz
			$R_L = 100\Omega, -3\text{dB}$				
	Response time	Rise time	$V_{CE} = 2\text{V}, I_C = 2\text{mA}$	-	3	20	μs
		Fall time		-	4	30	μs

Fig. 1 Forward Current vs. Ambient Temperature

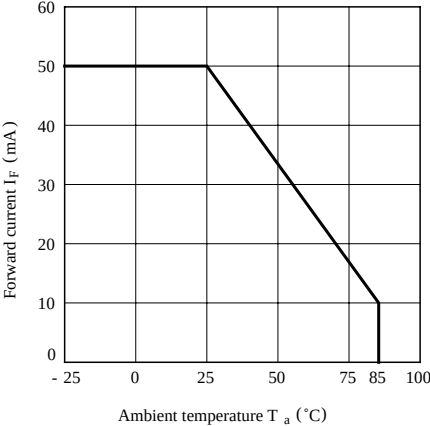


Fig. 2 Collector Power Dissipation vs. Ambient Temperature

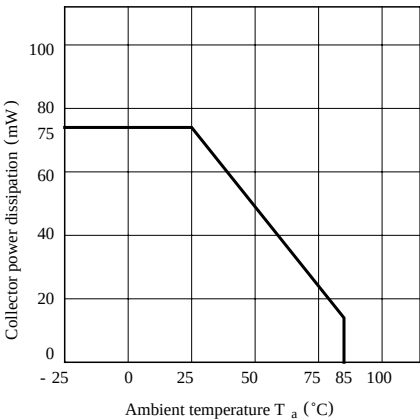


Fig. 3 Peak Forward Current vs. Duty Ratio

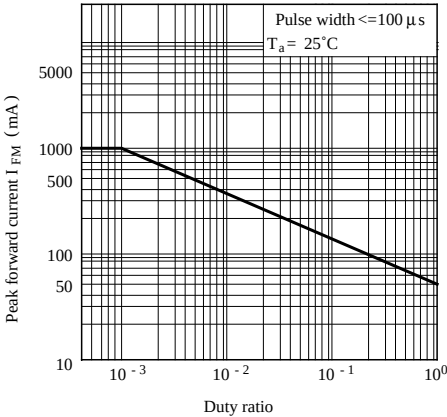


Fig. 4 Forward Current vs. Forward Voltage

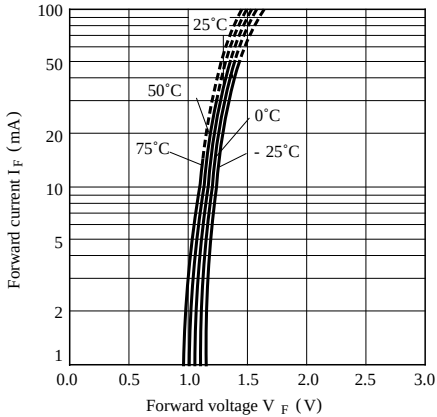


Fig. 5 Current Tranfer Ratio vs. Forward Current

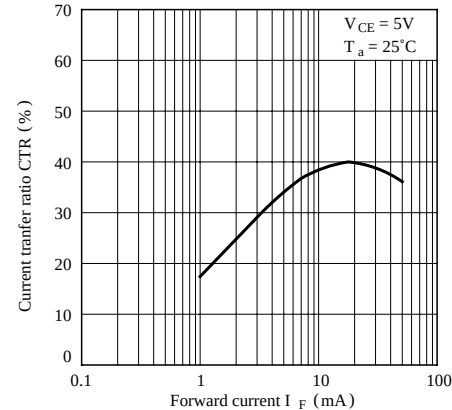


Fig. 6 Collector Current vs. Collector-emitter Voltage

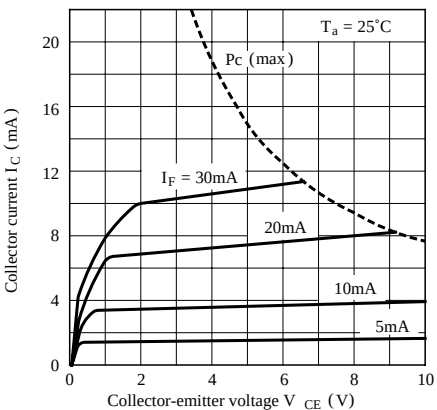


Fig. 7 Relative Current Transfer Ratio vs. Ambient Temperature

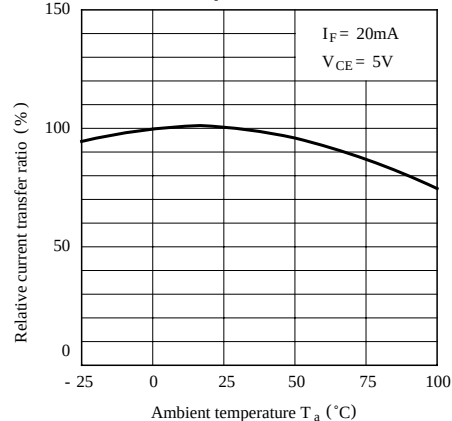


Fig. 8 Collector-emitter Saturation Voltage vs. Ambient Temperature

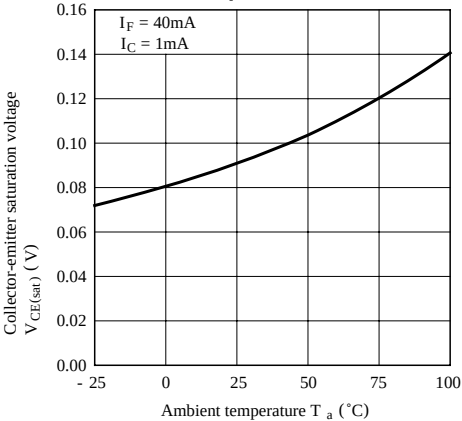


Fig. 9 Collector Dark Current vs. Ambient Temperature

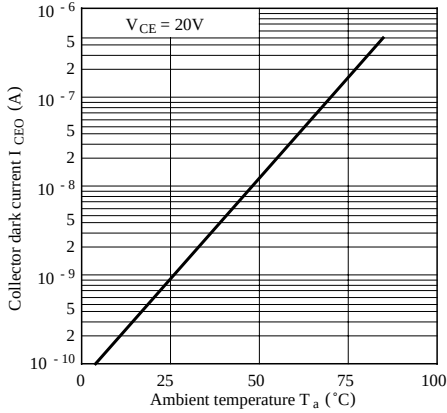


Fig.10 Response Time vs. Load Resistance

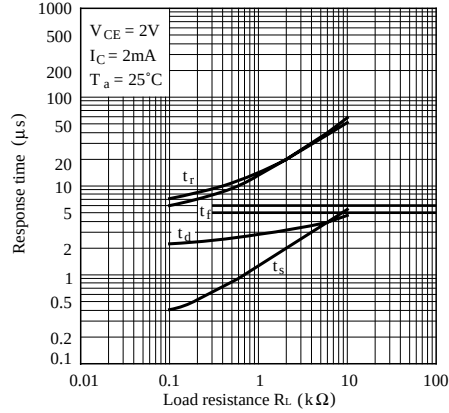


Fig.11 Frequency Response

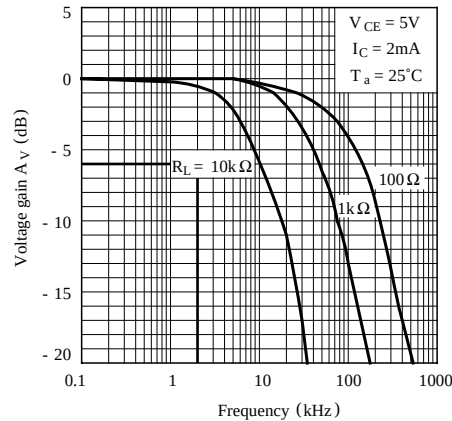
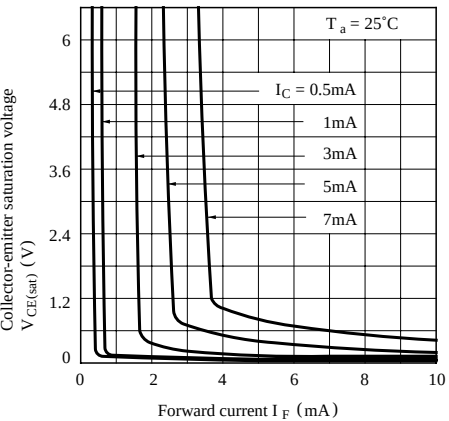


Fig.12 Collector-emitter Saturation Voltage vs. Forward Current



● Please refer to the chapter “Precautions for Use ”