PC733H

High Input Current, AC Input Type Photocoupler

❋ Lead forming type (I type) and taping reel type (P type) are also available. (**PC733HI/PC733HP**)

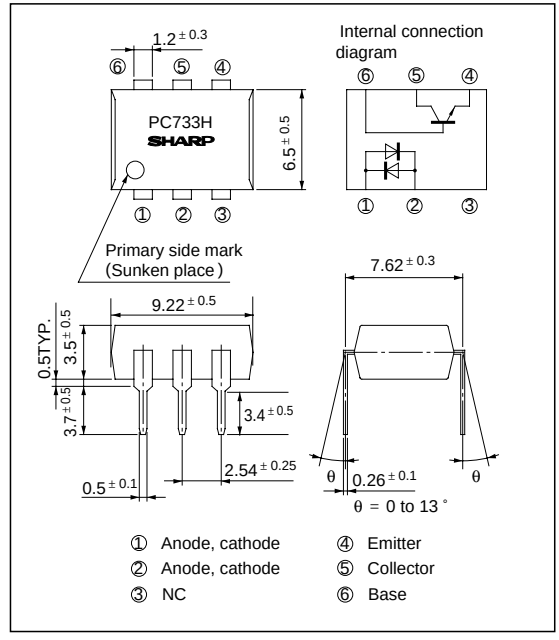
■ Features

1. AC input response
2. High input current (I_F: MAX. 150mA)
3. High isolation voltage between input and output
   (V_{iso}: 5 000 V_{rms})
4. Low collector dark current
   (I_{CEO}: MAX. 10^{-7}A at V_{CE} = 20V)
5. TTL compatible output
6. Recognized by UL, file No. E64380

■ Aapplications

1. Telephone sets
2. System appliances, measuring instruments
3. Signal transmission between circuits of different potentials and impedances

■ Outline Dimensions (Unit: mm)



■ Absolute Maximum Ratings (Ta= 25°C)

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	± 150	mA
	*1 Peak forward current	I_{FM}	± 1	A
	Power dissipation	P	230	mW
Output	Collector-emitter voltage	V_{CEO}	35	V
	Emitter-collector voltage	V_{ECO}	6	V
	Collector-base voltage	V_{CBO}	35	V
	Emitter-base voltage	V_{EBO}	6	V
	Collector current	I_C	80	mA
	Collector power dissipation	P_C	160	mW
Total power dissipation		P_{tot}	320	mW
*2 Isolation voltage		V_{iso}	5 000	V_{rms}
Operating temperature		T_{opr}	- 25 to + 100	°C
Storage temperature		T_{stg}	- 55 to + 125	°C
*3 Soldering temperature		T_{sol}	260	°C

*1 Pulse width<= 100μs, Duty ratio: 0.001
*2 40 to 60% RH, AC for 1 minute
*3 For 10 seconds

" In the absence of confirmation by device specification sheets, SHARP takes no responsibility for any defects that occur in equipment using any of SHARP's devices, shown in catalogs, data books, etc. Contact SHARP in order to obtain the latest version of the device specification sheets before using any SHARP's device. "

■ Electro-optical Characteristics

(Ta= 25˚C)

Parameter			Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage		V_F	I_F = ±100mA	-	1.4	1.7	V
	Peak forward voltage		V_{FM}	I_{FM} = ±0.5A	-	-	3.0	V
	Terminal capacitance		C_t	V = 0, f = 1kHz	-	50	400	pF
Output	Collector dark current		I_{CEO}	V_{CE} = 20V, I_F = 0, R_{BE} = ∞	-	-	10^{-7}	A
Transfer characteristics	Current transfer ratio		CTR	I_F = ±100mA, V_{CE} = 2V, R_{BE} = ∞	20	-	80	%
	Collector-emitter saturation voltage		$V_{CE(sat)}$	I_F = ±100mA, I_C = 1mA, R_{BE} = ∞	-	0.1	0.2	V
	Isolation resistance		R_{ISO}	DC500V, 40 to 60% RH	5 x 10^{10}	10^{11}	-	Ω
	Floating capacitance		C_f	V = 0, f = 1MHz	-	0.6	1.0	pF
	Cut-off frequency		f_c	V_{CE} = 5V, I_C = 2mA, R_L = 100Ω, R_{BE} = ∞, -3dB	15	80	-	kHz
	Response time	Rise time	t_r	V_{CE} = 2V, I_C = 2mA,	-	4	18	μs
		Fall time	t_f	R_L = 100Ω, R_{BE} = ∞	-	3	18	μs

Fig. 1 Forward Current vs. Ambient Temperature

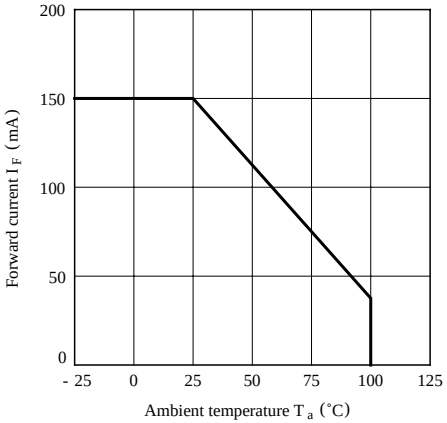


Fig. 2 Collector Power Dissipation vs. Ambient Temperature

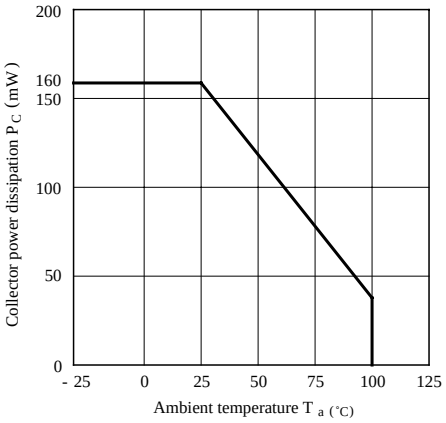


Fig. 3 Peak Forward Current vs. Duty Ratio

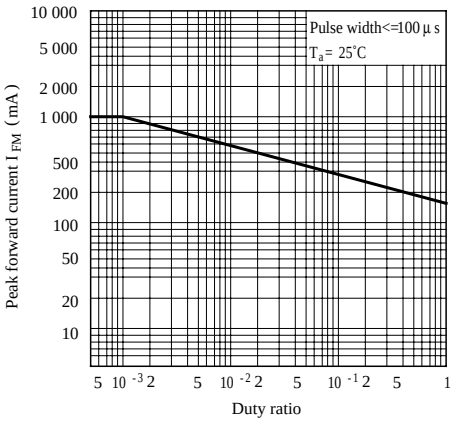


Fig. 4 Forward Current vs. Forward Voltage

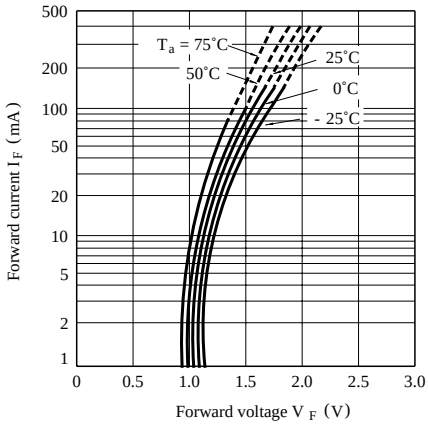


Fig. 5 Current Transfer Ratio vs. Forward Current

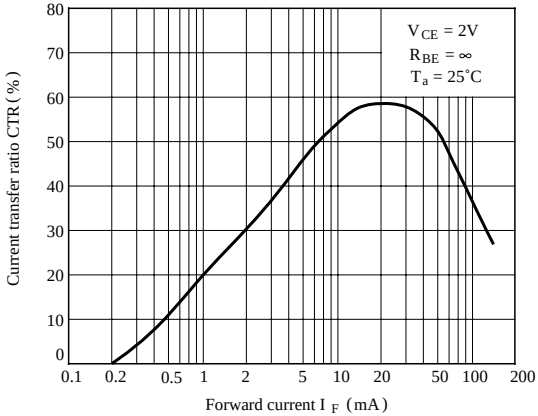


Fig. 6 Collector Current vs. Collector-emitter Voltage

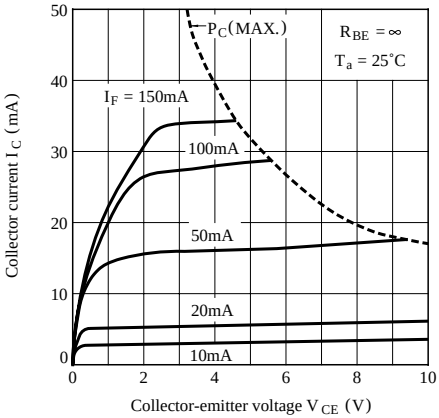


Fig. 7 Relative Current Transfer Ratio vs. Ambient Temperature

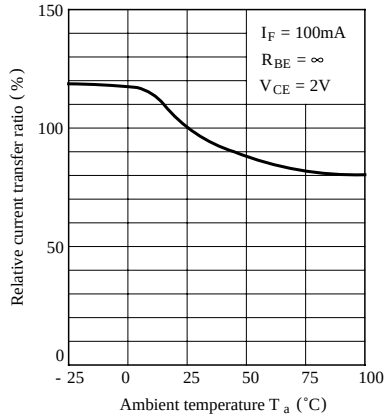


Fig. 8 Collector-emitter Saturation Voltage vs. Ambient Temperature

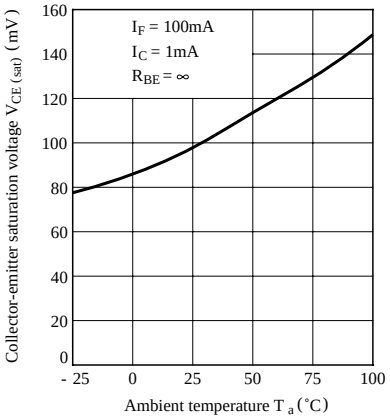


Fig. 9-a Collector Dark Current vs. Ambient Temperature

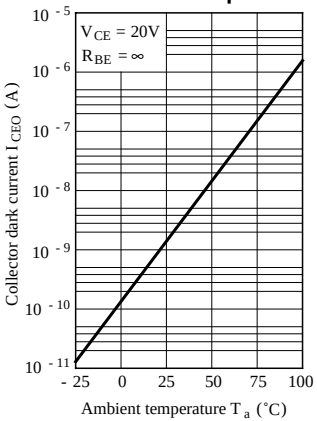


Fig. 9-b Collector-base Dark Current vs. Ambient Temperature

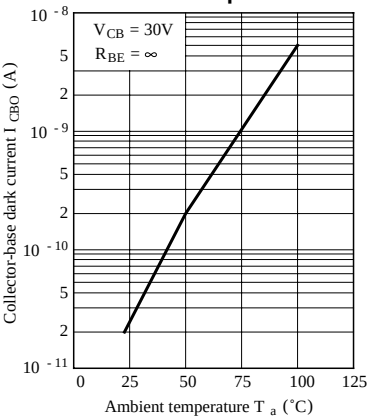


Fig.10 Response Time vs. Load Resistance

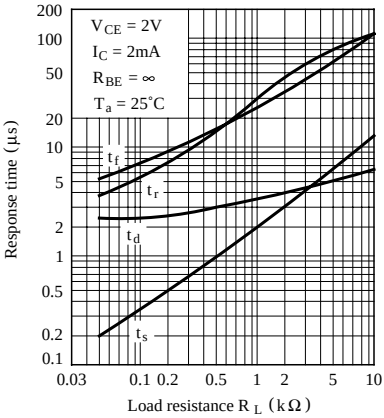
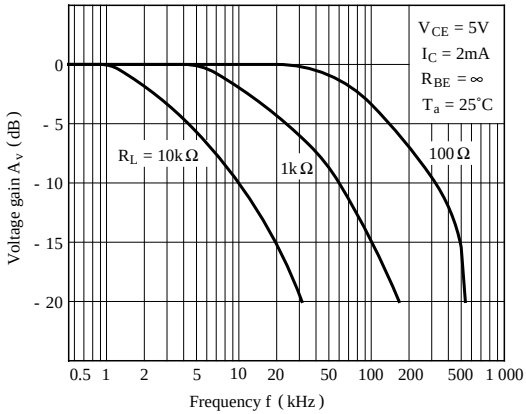
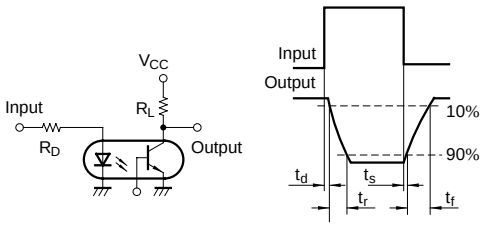


Fig.11 Frequency Response



Test Circuit for Response Time



Test Circuit for Frequency Response

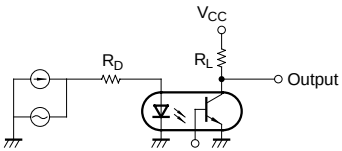
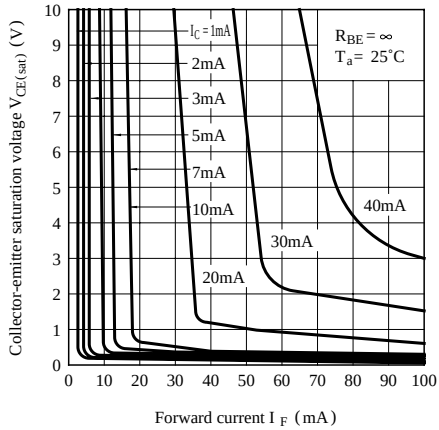


Fig.12 Collector-emitter Saturation Voltage vs. Forward Current



● Please refer to the chapter "Precautions for Use".