PC3Q66/PC3Q66Q

Mini-flat Package, **High Collector-Emitter Voltage** Type **Half** Pitch **Photocoupler**

■ Features

1. High collector-emitter voltage (V_{CEO} : 80V)
2. Half pitch type (lead pitch: 1.27mm) (Mounting area :40% smaller than **PC3Q16**)
3. Isolation voltage between input and output (V_{iso} : 2 500V_{rms})
4. Applicable to infrared ray reflow (230℃ for MAX. 30seconds)
5. High reliability (**PC3Q66Q**)

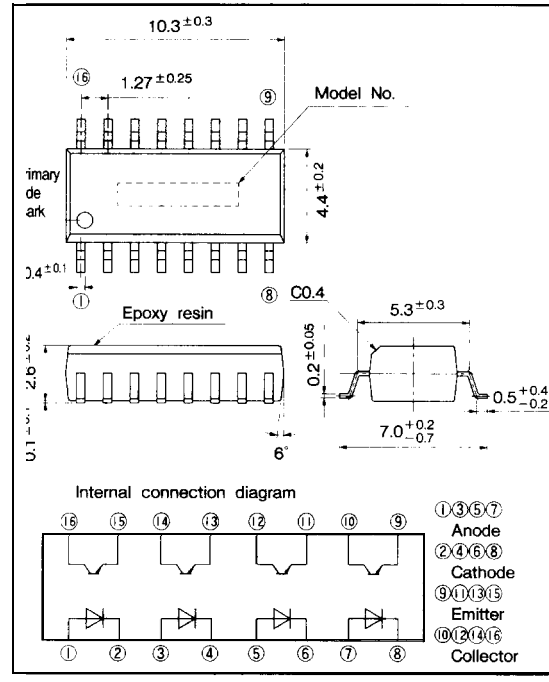
■ Applications

1. Programmable controllers

■ Package Specifications

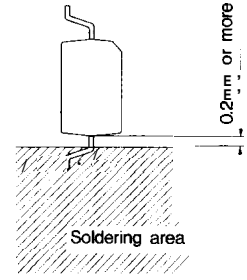
Model No.	Package specifications
PC3Q66/ PC3Q66Q	Taping reel diameter 330mm (1 000 pcs.)

■ Outline Dimensions (Unit : mm)



■ Absolute Maximum Ratings (Ta=25℃)

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	70	mW
output	Collector -emitter voltage	V_{CEO}	80	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}	170	mW
*2 Isolation voltage		V_{ISO}	2.5	kV_{rms}
Operating temperature		T_{opr}	−30 to + 100	℃
Storage temperature		T_{stg}	−40 to +125	℃
*Soldering temperature		T_{sol}	260	℃



*1 Pulse width ≤ 100 μs, Duty ratio :0,001
*2 AC for 1 min., 40 to 60%RH, f=60Hz
*3 For 10seconds

■ Electro-optical Characteristics

(Ta = 25℃)

Parameter			Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward current		V_F	I_F = 20mA	—	1.2	1.4	V
	Reverse current		I_R	V_R = 4V	—	—	10	μA
	Terminal capacitance		C_t	V = 0, f = 1kHz	—	30	250	pF
output	Collector dark current		I_{CEO}	V_{CE} = 20V, I_F = 0	·	—	100	nA
	Collector -emitter breakdown voltage		BV_{CEO}	I_C = 0.1mA, IF=O	80	—	—	v
	Emitter-collector breakdown voltage		BV ECO	I_E = 10 μA, I_F = 0	6	—	—	V
Transfer charac teristics	Collector current		I_C	I_F = lmA, V_{CE} = 5V	1	—	4	mA
	Collector -emitter saturation voltage		$V_{CE(sat)}$	I_F = 20mA, I_C = 1mA	—	0.1	0.2	V
	Isolation resistance		R_{ISO}	DC500V 40 to 60%RH	5×10^{10}	10^{11}	—	Ω
	Floating capacitance		C,	V=O, f=l MHz	·	0.6	1.0	pF
	Response time	Rise time	t_r	V_{CE} = 2V, I_C = 2mA	—	6	—	μs
		Fall time	tf	R_L = 100Ω	—	8	—	μs

Fig. 1 Forward Current vs. Ambient Temperature

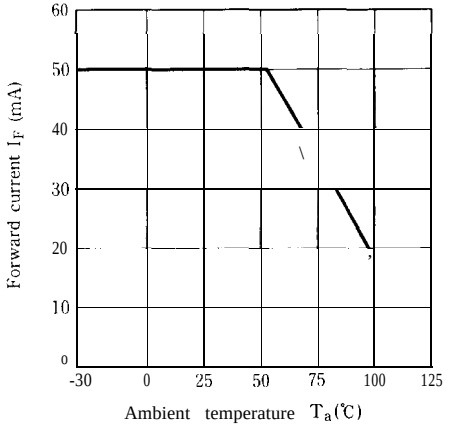


Fig. 2 Diode Power Dissipation vs. Ambient Temperature

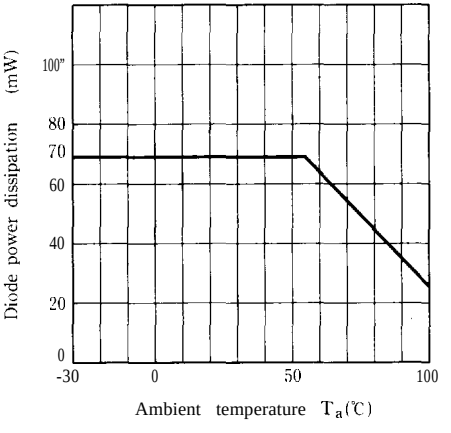


Fig. 3 Collector Power Dissipation vs. Ambient Temperature

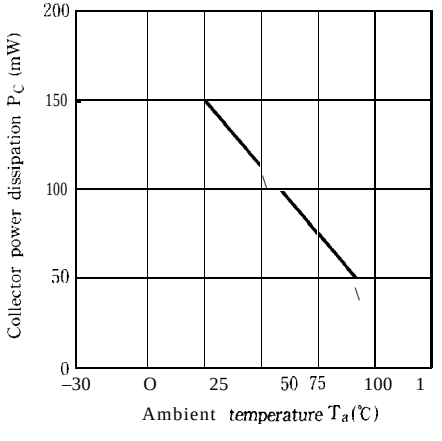


Fig. 4 Power Dissipation vs. Ambient Temperature

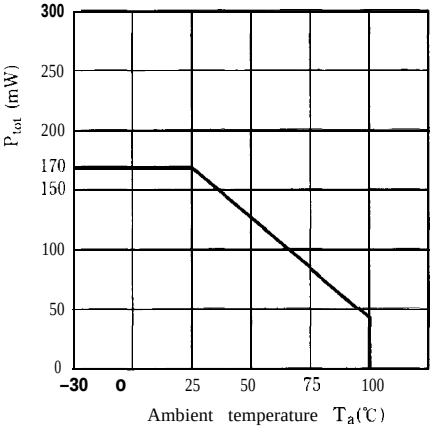


Fig. 5 Peak Forward Current vs. Duty Ratio

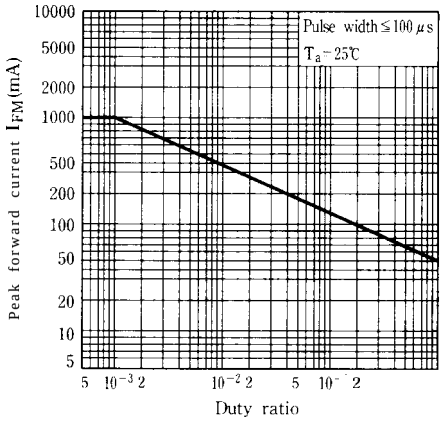


Fig. 6 Forward Current vs. Forward Voltage

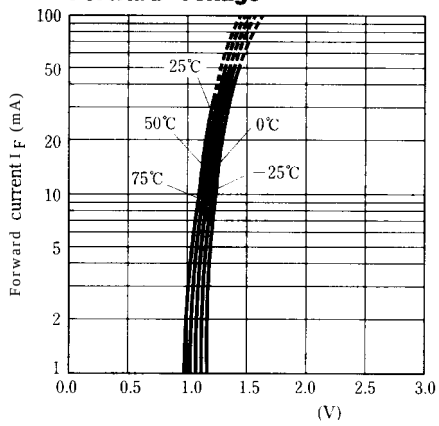


Fig. 7 Current Tranfer Ratio vs. Forward Current

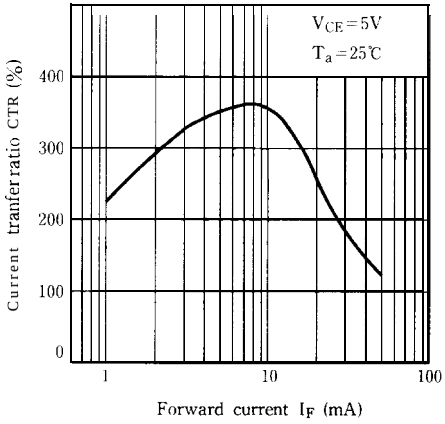


Fig. 8 Collector Current vs. Collector -emitter Voltage

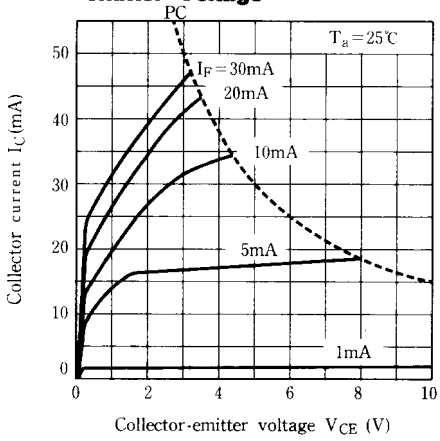


Fig. 9 Relative Current Transfer Ratio vs. Ambient Temperature

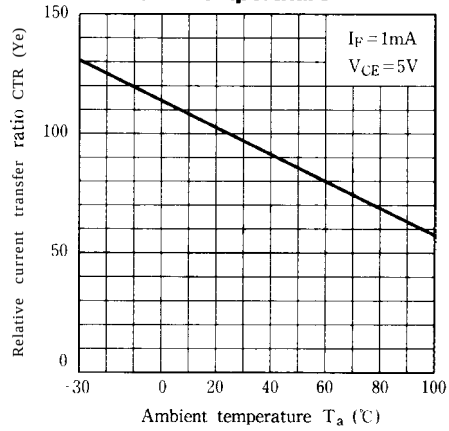


Fig.10 Collector-emitter Saturation Voltage vs. Ambient Temperature

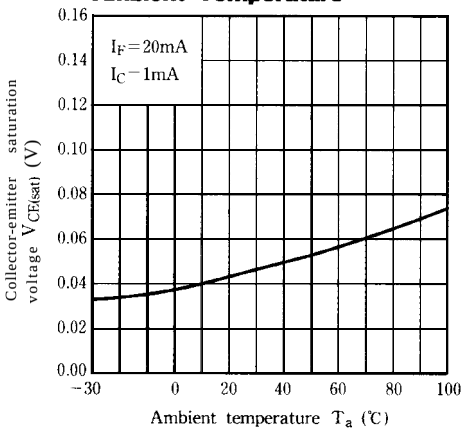


Fig.11 Collector Dark Current vs. Ambient Temperature

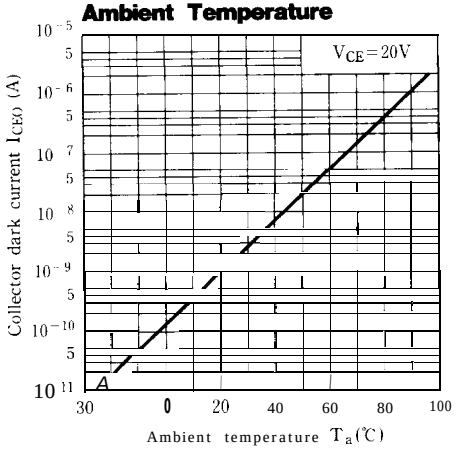


Fig.12 Response Time vs. Load Resistance

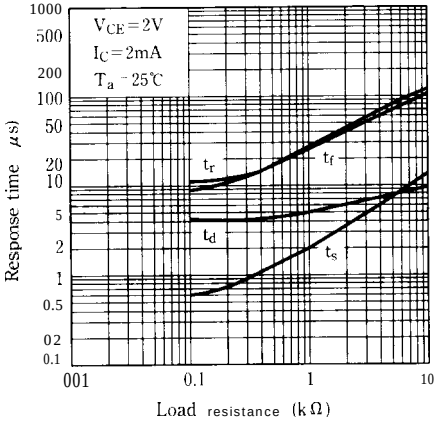
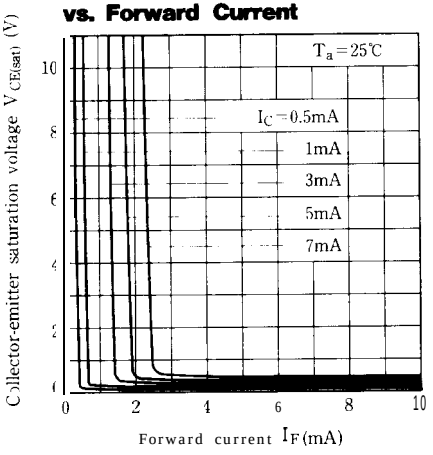


Fig.13 Collector-emitter Saturation Voltage vs. Forward Current



● please refer to the chapter “Precautions for Use” (Page 78 to 93).