PC3Q67/PC3Q67Q

Mini-falt Package, General Purpose Half Pitch Photocoupler

■ Features

1. Mini-flat package
2. Half pitch type (lead pitch :1.27mm)
   (Mounting area :40% smaller than **PC3Q17**)
3. Isolation voltage :V_{iso}: 2500V_{rms}
4. Applicable to infrared ray reflow
   (230℃, For MAX. 30seconds)
5. High reliability (**PC3Q67Q**)

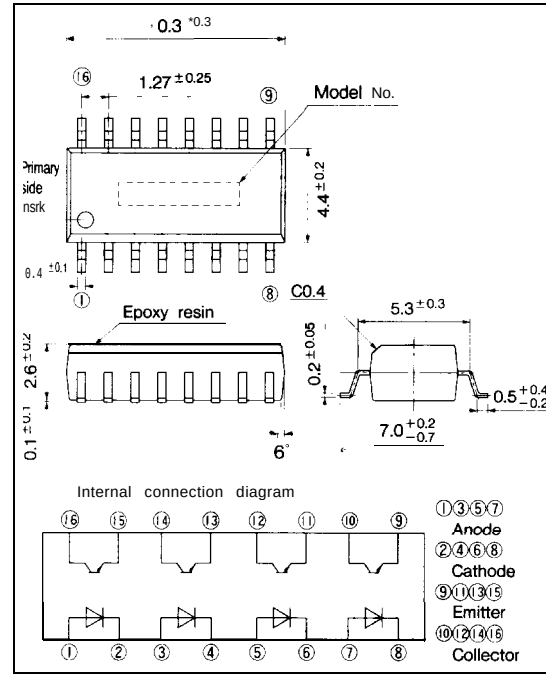
■ Applications

1. Programmable controllers

■ Package Specifications

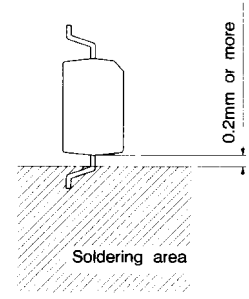
Model No.	Taping specifications
PC3Q66/ PC3Q66Q	Taping reel diameter 330mm (1 000pcs.)

■ 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}	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}	170	mW
*2 Isolation voltage		vi."	2,5	kV_{rms}
Operating temperature		T_{opr}	–30 to + 100	'c
Storage temperature		T_{stg}	–40 to+125	℃
*3 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 10 seconds

■ 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	35	–	–	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 = 5mA, V_{CE} = 5V	2.5	5	30	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		Cf	V=O, f=1MHz	–	0.6	1.0	pF
	Response time	Rise time	t_r	V_{CE} = 2V, I_C = 2mA R_L = 100Ω	–	4	18	μs
		Fall time	t_f		–	3	18	μs

Fig. 1 Forward Current vs. Ambient Temperature

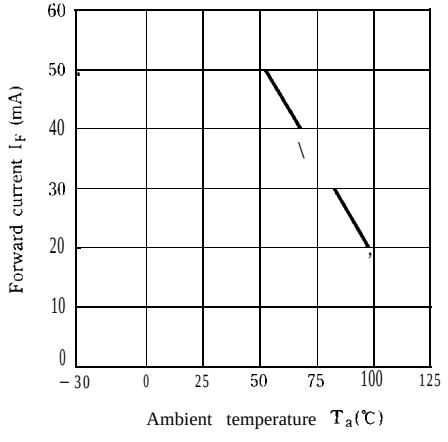


Fig. 2 Diode Power Dissipation vs. Ambient Temperature

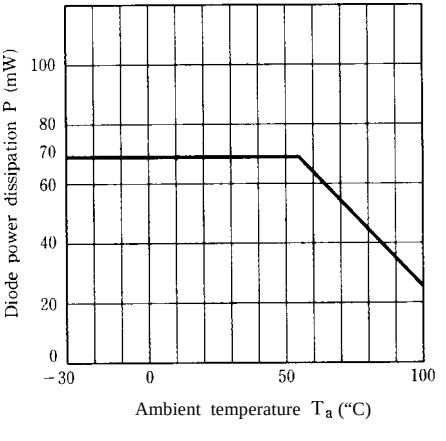


Fig. 3 Power Dissipation vs. Ambient Temperature

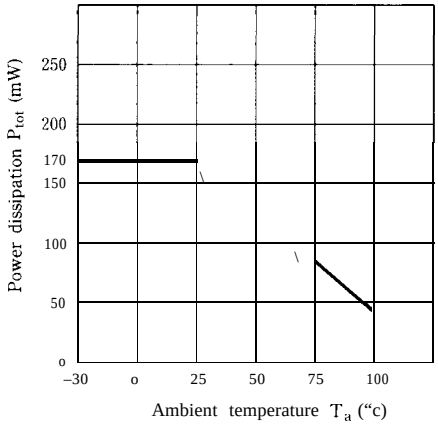


Fig. 4 Collector Power Dissipation vs. Ambient Temperature

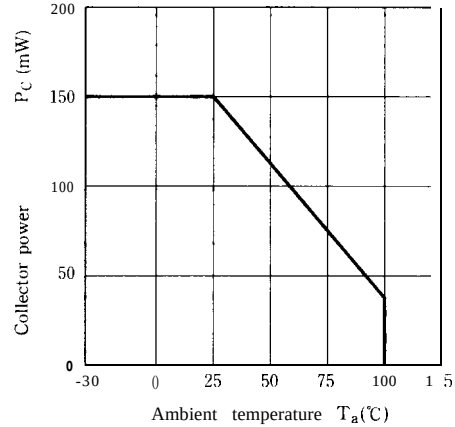


Fig. 5 Paak Forward Current vs. Duty Ratio

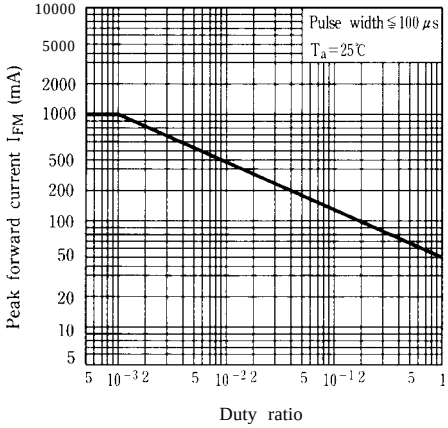


Fig. 6 Forward Currant vs. Forward Voltage

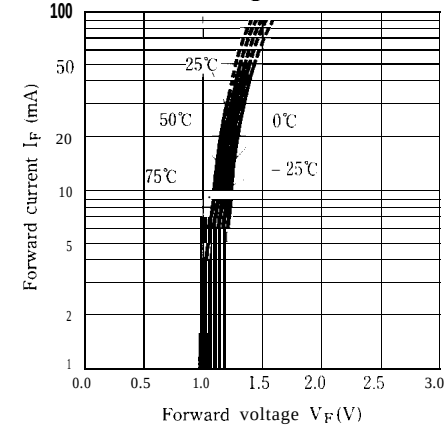


Fig. 7 Current Tranfer Ratio vs. Forward Current

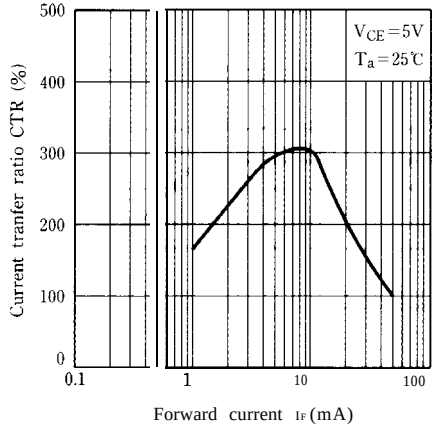


Fig. 8 Collector Current vs. Collector-emitter Voltage

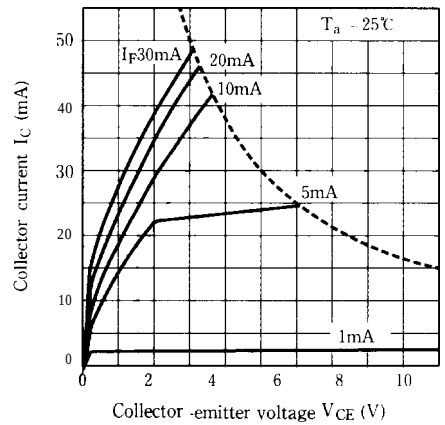


Fig. 9 Relative Current Transfer Ratio vs. Ambient Temperature

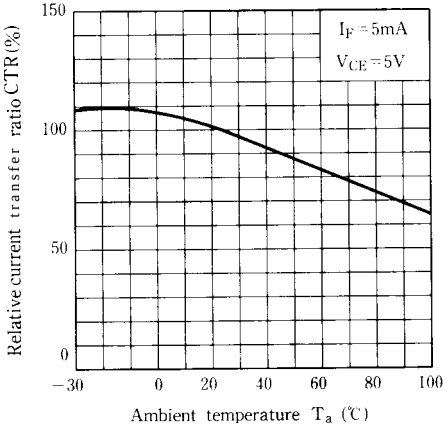


Fig.10 Collector-emitter Saturation Voltage vs. Ambient Temperature

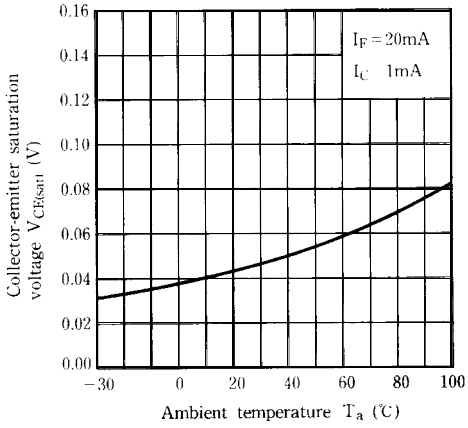


Fig.11 Collector Dark Current vs. Ambient Temperature

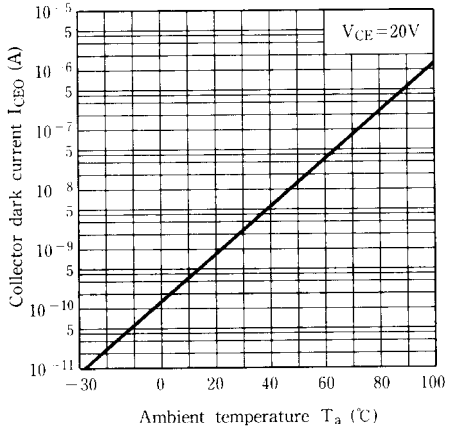


Fig.12 Response Time vs. Load Resistance

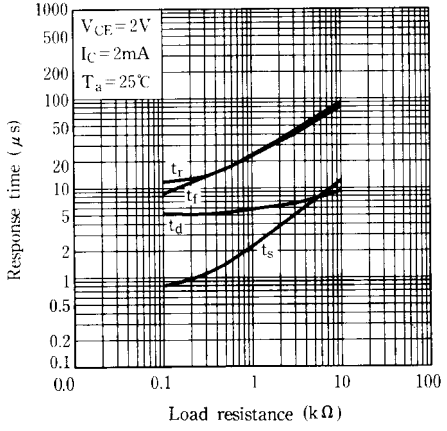
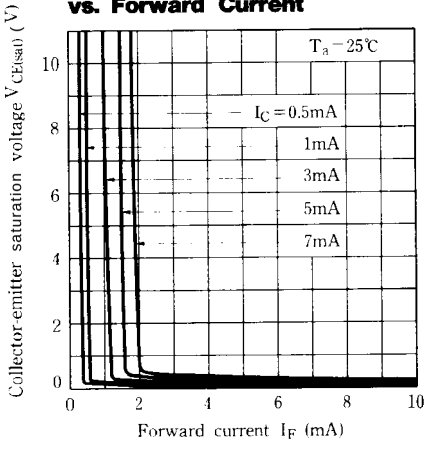


Fig.13 Collector-emitter Saturation Voltage vs. Forward Current



● Please refer to the chapter "Precautions for Use." (Page 78 to 93)