PC3Q67Q

Mini-falt Package, General Purpose Half Pitch Photocoupler

■ Features

1. Mini-flat package
2. Half pitch type (lead pitch : 1.27mm)
3. Isolation voltage : V_{iso} : 2 500V_{rms}
4. Applicable to infrared ray reflow (230˚C, For MAX. 30seconds)
5. High reliability

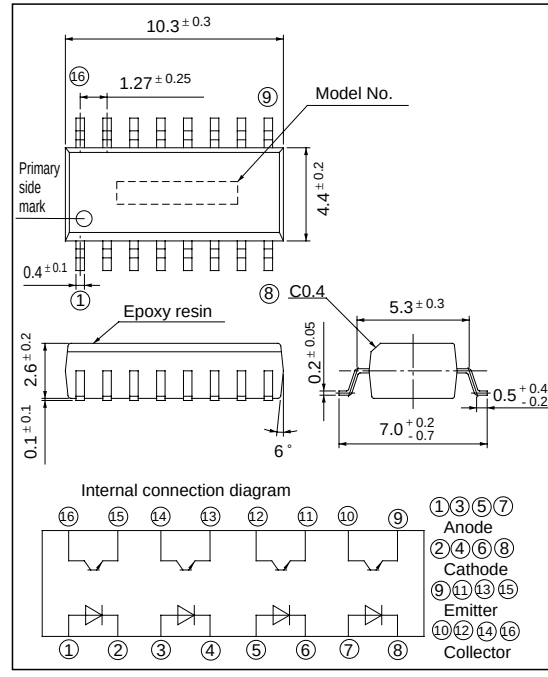
■ Applications

1. Programmable controllers

■ Package Specifications

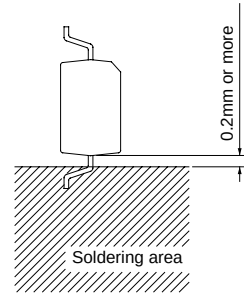
Model No.	Taping specifications
PC3Q67Q	Taping reel diameter 330mm (1 000pcs.)

■ 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	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		V_{iso}	2.5	kV_{rms}
Operating temperature		T_{opr}	- 30 to + 100	˚C
Storage temperature		T_{stg}	- 40 to + 125	˚C
*3 Soldering temperature		T_{sol}	260	˚C



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

■ Electro-optical Characteristics

(Ta= 25˚C)

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, I_F = 0	35	-	-	V
	Emitter-collector breakdown voltage		BV_{ECO}	I_E = 10μA, I_F = 0	6	-	-	V
Transfer characteristics	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		C_f	V = 0, 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

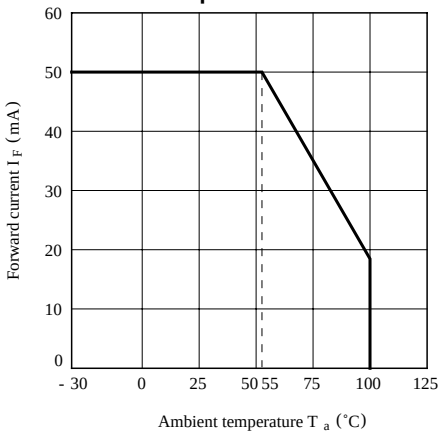


Fig. 2 Diode Power Dissipation vs. Ambient Temperature

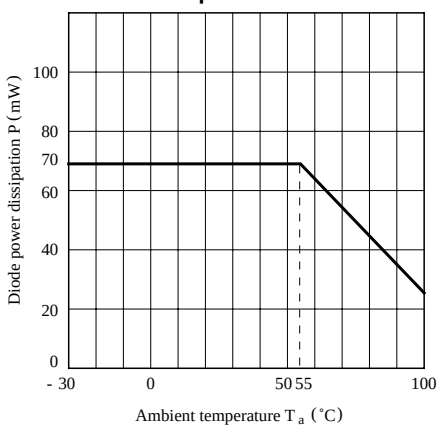


Fig. 3 Power Dissipation vs. Ambient Temperature

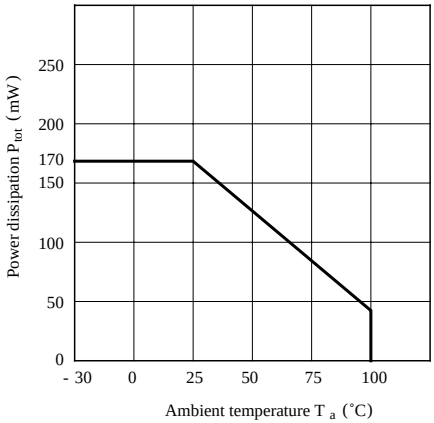


Fig. 4 Collector Power Dissipation vs. Ambient Temperature

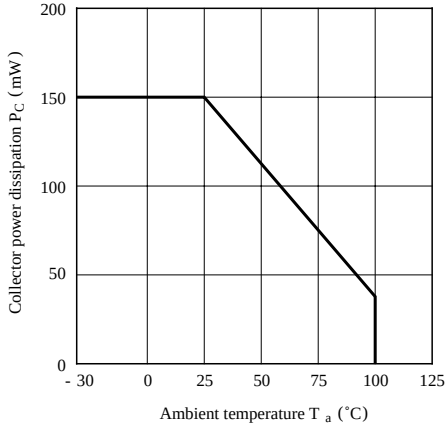


Fig. 5 Peak Forward Current vs. Duty Ratio

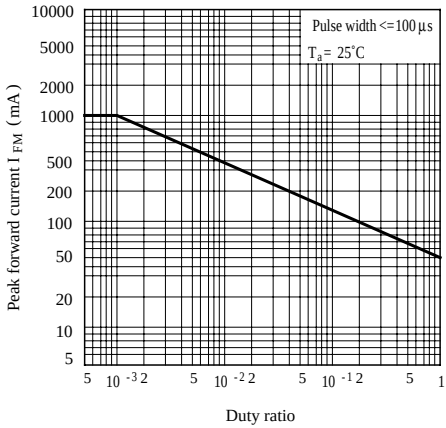


Fig. 6 Forward Current vs. Forward Voltage

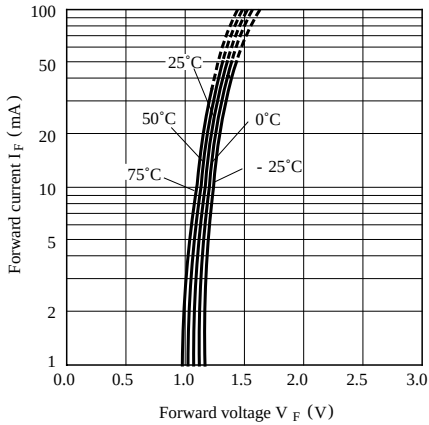


Fig. 7 Current Tranfer Ratio vs. Forward Current

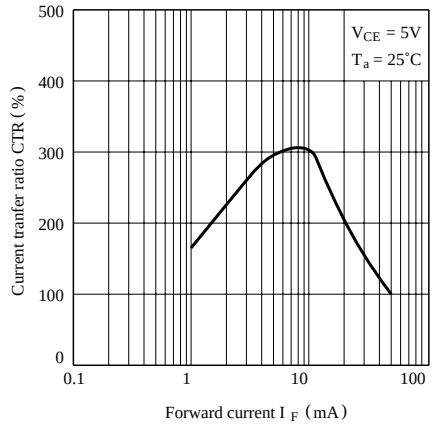


Fig. 8 Collector Current vs. Collector-emitter Voltage

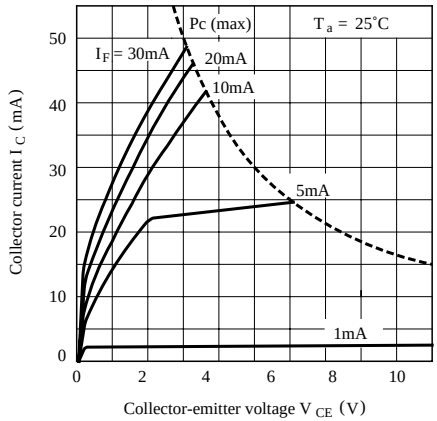


Fig. 9 Relative Current Transfer Ratio vs. Ambient Temperature

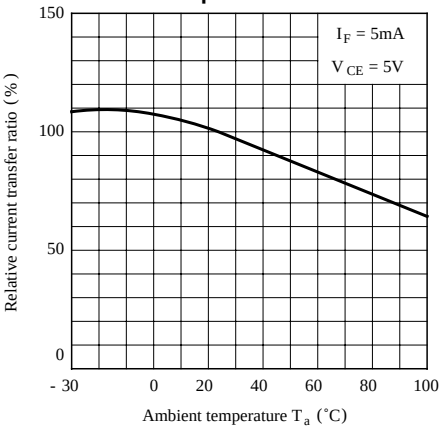


Fig.10 Collector-emitter Saturation Voltage vs. Ambient Temperature

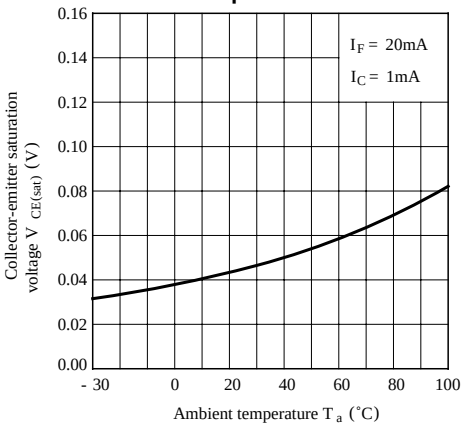


Fig.11 Collector Dark Current vs. Ambient Temperature

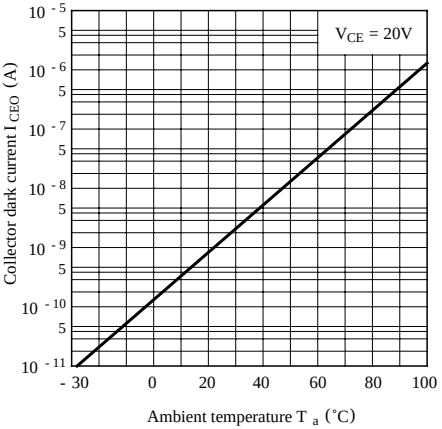


Fig.12 Response Time vs. Load Resistance

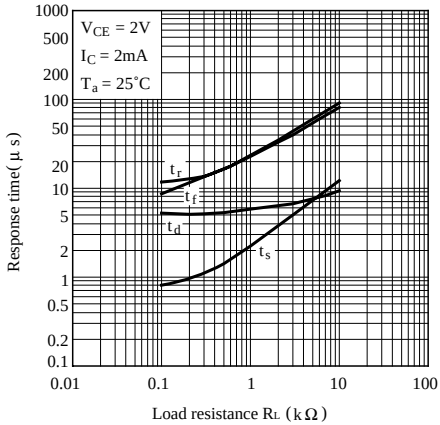
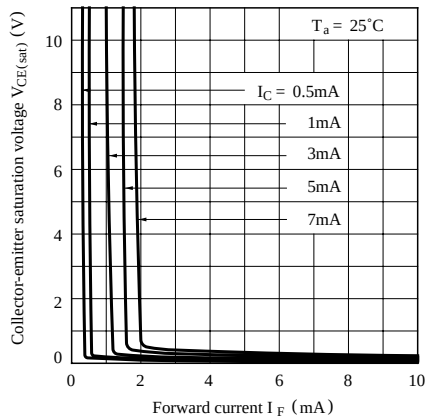


Fig.13 Collector-emitter Saturation Voltage vs. Forward Current



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

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