

PC3Q64Q

Mini-flat Package AC Input Type Half Pitch Photocoupler

■ Features

1. AC input type
2. Half pitch type (lead pitch : 1.27mm)
3. Isolation voltage between input and output
($V_{iso} : 2\,500V_{rms}$)
4. Applicable to infrared ray reflow
(230°C, for MAX. 30 seconds)
5. High reliability

■ Applications

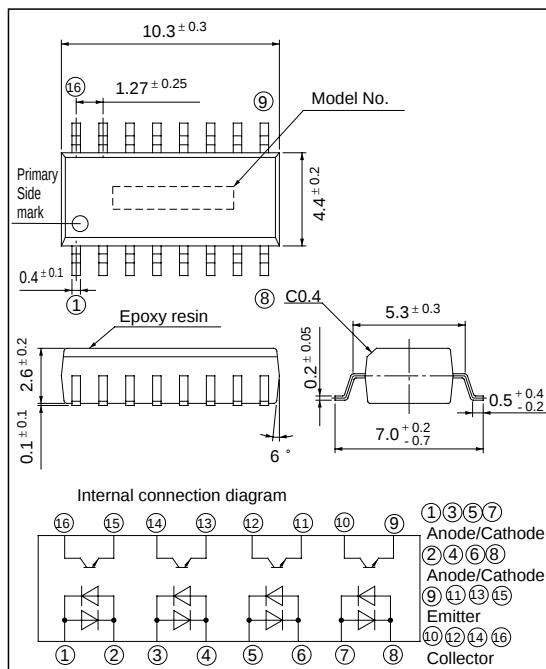
1. Programmable controllers

■ Package Specifications

Model No.	Package specification
PC3Q64Q	Taping reel diameter 330mm (1 000pcs)

■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings

($T_a = 25^\circ C$)

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	± 50	mA
	*1 Peak forward current	I_{FM}	± 1	A
	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_{sig}	- 40 to + 125	°C
*3 Soldering temperature		T_{sol}	260	°C

*1 Pulse width $\leq 100\mu s$, 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 voltage		V _F	I _F = ± 20mA	-	1.2	1.4	V
	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 = 10 μ A, I _F = 0	6	-	-	V
Transfer characteristics	Collector current		I _C	I _F = ± 1mA V _{CE} = 5V	0.2	-	4.0	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 x 10 ¹⁰	10 ¹¹	-	Ω
	Floating capacitance		C _f	V = 0, f= 1MH _z	-	0.6	1.0	pF
	Response time	Rise time	t _r	V _{CE} = 2V I _C = 2mA R _L = 100 Ω	-	4	18	μ s
		Fall time	t _f		-	3	18	μ s

Fig. 1 Forward Current vs. Ambient Temperature

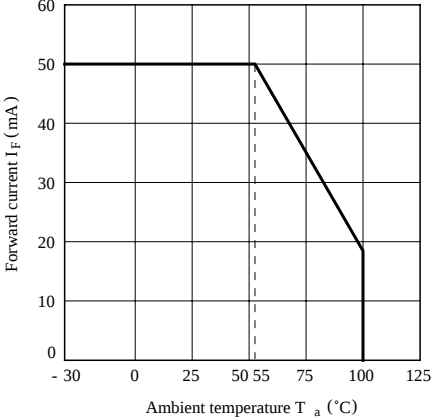


Fig. 2 Diode Power Dissipation vs. Ambient Temperature

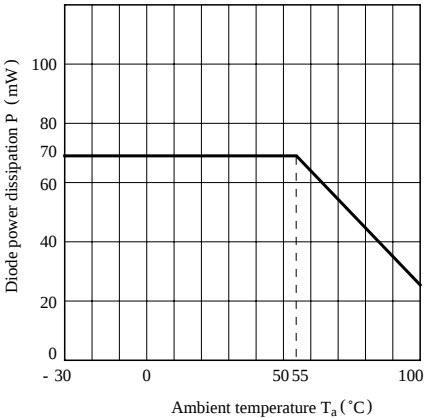


Fig. 3 Collector Power Dissipation vs. Ambient Temperature

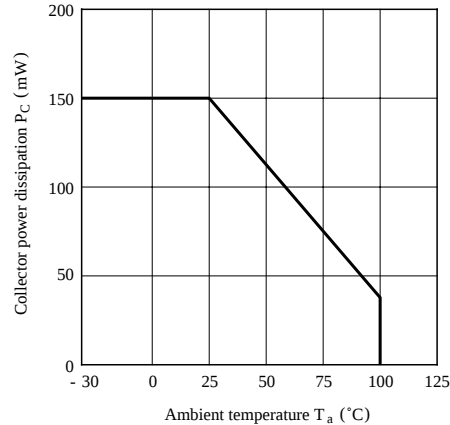


Fig. 4 Power Dissipation vs. Ambient Temperature

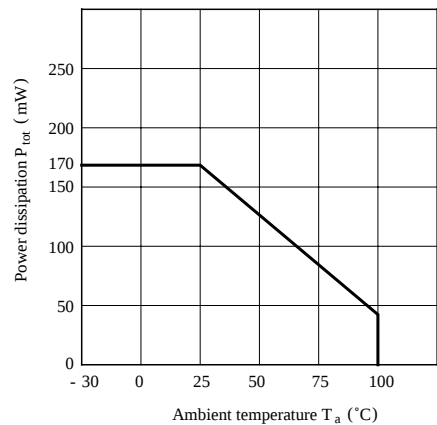


Fig. 5 Peak Forward Current vs. Duty Ratio

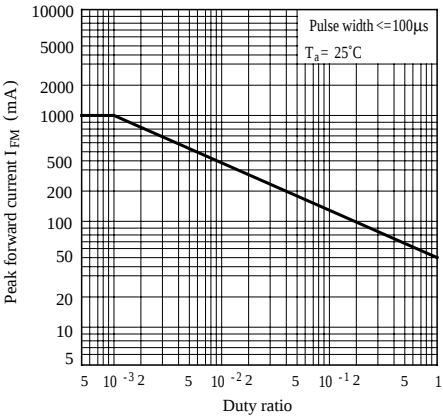


Fig. 6 Forward Current vs. Forward Voltage

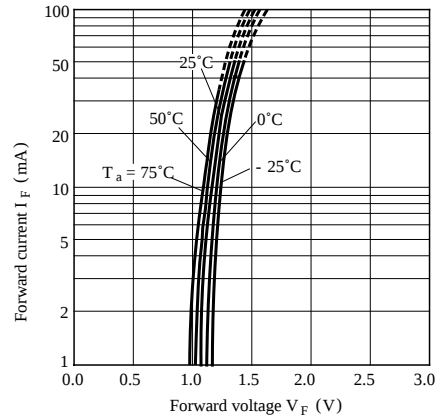


Fig. 7 Current Transfer Ratio vs. Forward Current

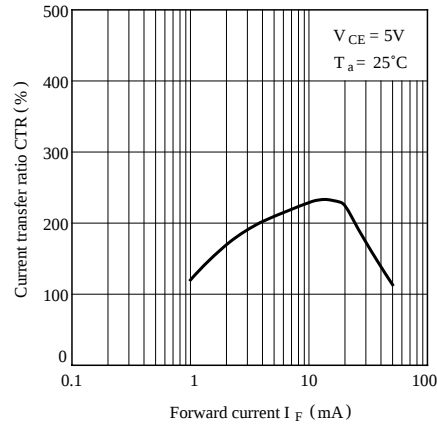


Fig. 8 Collector Current vs. Collector-emitter Voltage

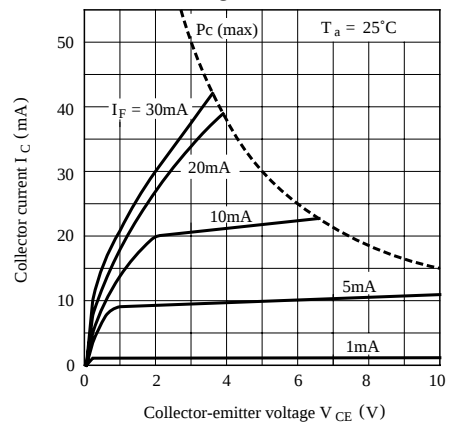


Fig. 9 Relative Current Transfer Ratio vs. Ambient Temperature

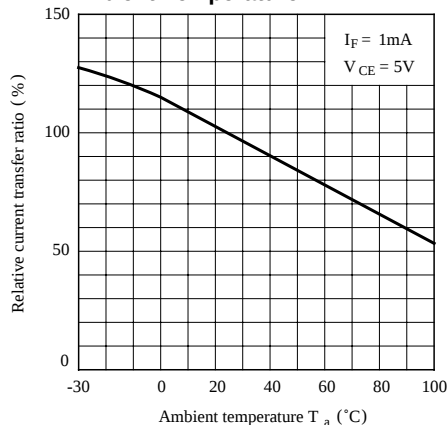


Fig.10 Collector-emitter Saturation Voltage vs. Ambient Temperature

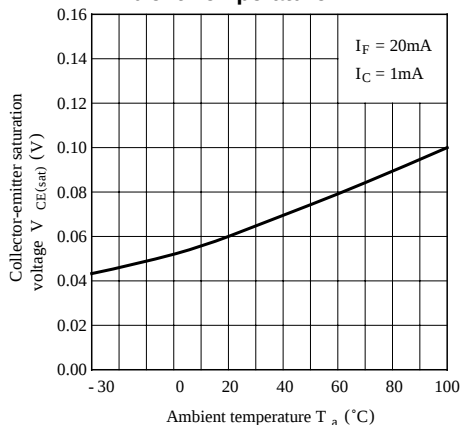


Fig.11 Collector Dark Current vs. Ambient Temperature

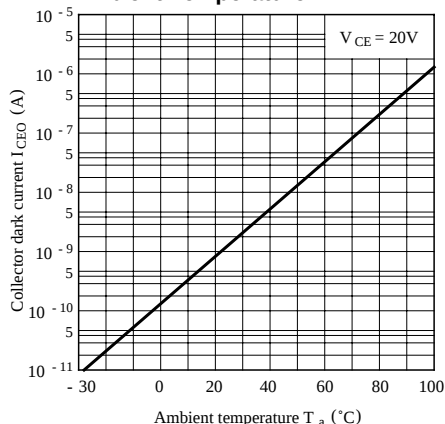


Fig.12 Response Time vs. Load Resistance

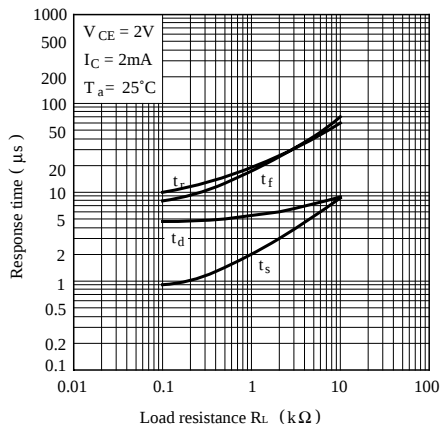
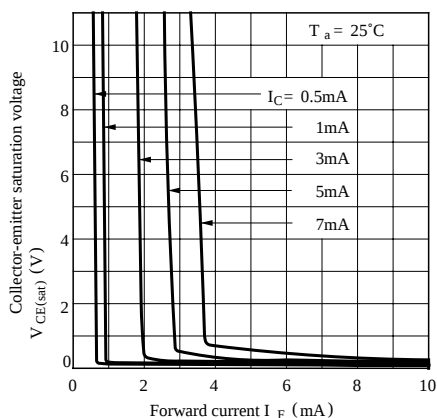


Fig.13 Collector-emitter Saturation Voltage vs. Forward Current



● Please refer to the chapter
“Precautions for Use.”