

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
($230^{\circ}C$, for MAX. 30 seconds)
5. High reliability

■ Applications

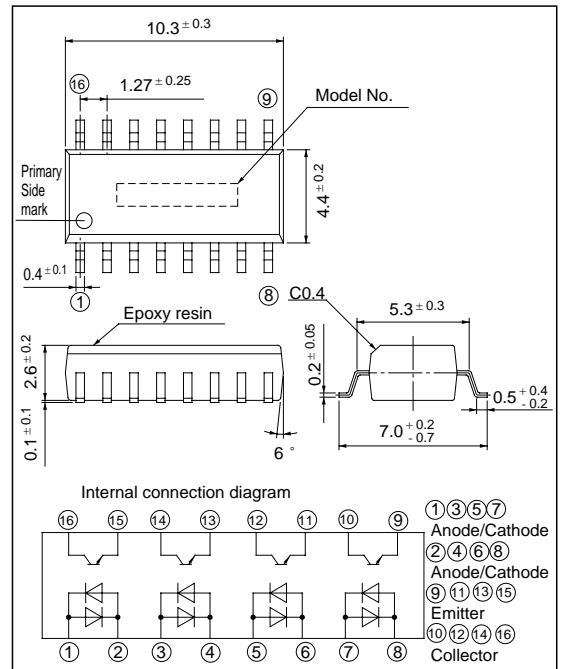
1. Programmable controllers

■ Package Specifications

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

■ Outline Dimensions

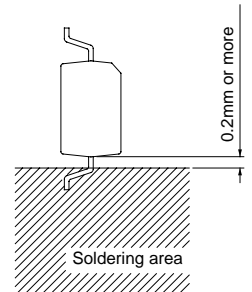
(Unit : mm)



■ Absolute Maximum Ratings

(Ta = 25°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_{stg}	- 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**

($T_a = 25^\circ\text{C}$)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V_F	$I_F = \pm 20\text{mA}$	-	1.2	1.4	V
	Terminal capacitance	C_t	$V = 0, f = 1\text{kHz}$	-	30	250	pF
Output	Collector dark current	I_{CEO}	$V_{CE} = 20\text{V}, I_F = 0$	-	-	100	nA
	Collector-emitter breakdown voltage	BV_{CEO}	$I_C = 0.1\text{mA}$ $I_F = 0$	35	-	-	V
	Emitter-collector breakdown voltage	BV_{ECO}	$I_E = 10\mu\text{A}, I_F = 0$	6	-	-	V
Transfer characteristics	Collector current	I_C	$I_F = \pm 1\text{mA}$ $V_{CE} = 5\text{V}$	0.2	-	4.0	mA
	Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_F = \pm 20\text{mA}$ $I_C = 1\text{mA}$	-	0.1	0.2	V
	Isolation resistance	R_{ISO}	DC500V 40 to 60% RH	5×10^{10}	10^{11}	-	Ω
	Floating capacitance	C_f	$V = 0, f = 1\text{MHz}$	-	0.6	1.0	pF
	Response time	Rise time	t_r	$V_{CE} = 2\text{V}$ $I_C = 2\text{mA}$ $R_L = 100\Omega$	-	4	18
Fall time		t_f	-		3	18	μs

Fig. 1 Forward Current vs. Ambient Temperature

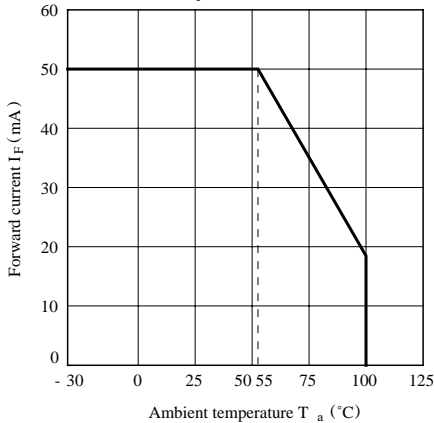


Fig. 2 Diode Power Dissipation vs. Ambient Temperature

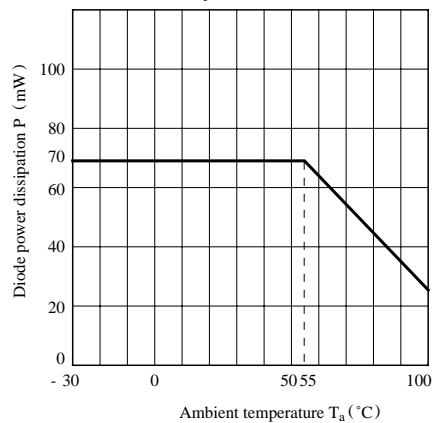


Fig. 3 Collector Power Dissipation vs. Ambient Temperature

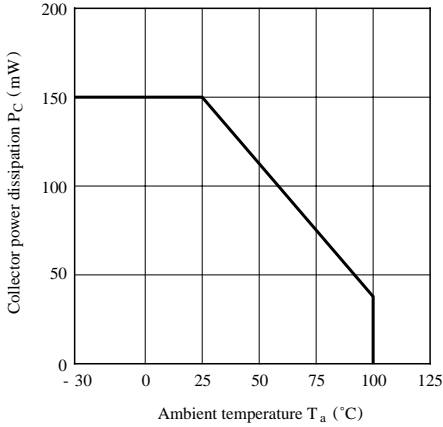


Fig. 4 Power Dissipation vs. Ambient Temperature

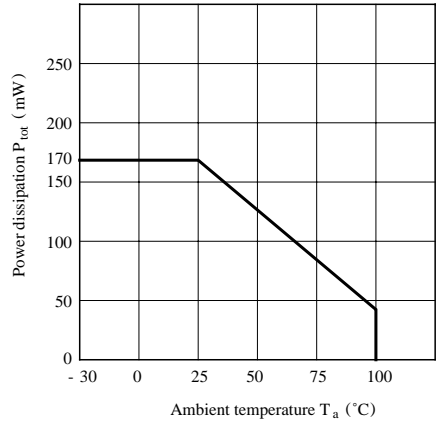


Fig. 5 Peak Forward Current vs. Duty Ratio

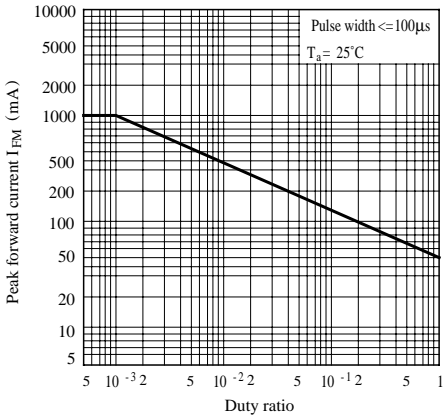


Fig. 6 Forward Current vs. Forward Voltage

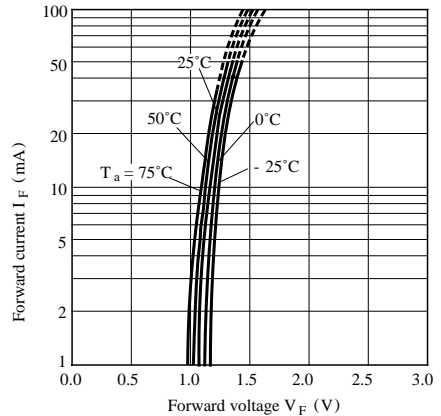


Fig. 7 Current Transfer Ratio vs. Forward Current

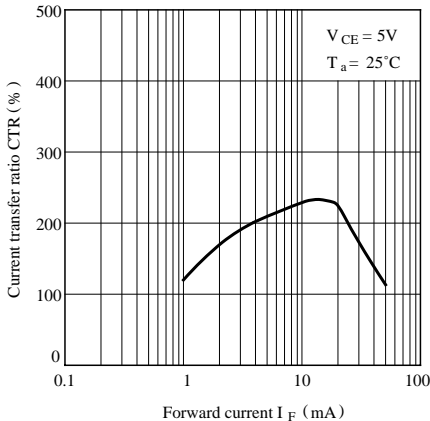


Fig. 8 Collector Current vs. Collector-emitter Voltage

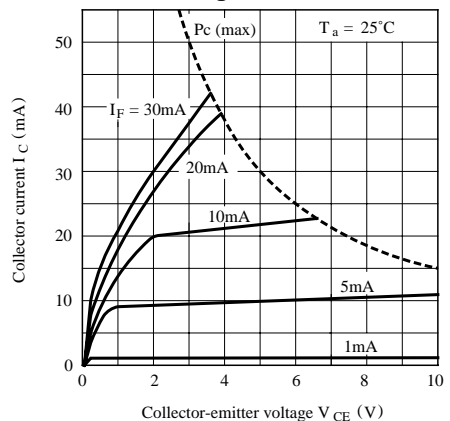


Fig. 9 Relative Current Transfer Ratio vs. Ambient Temperature

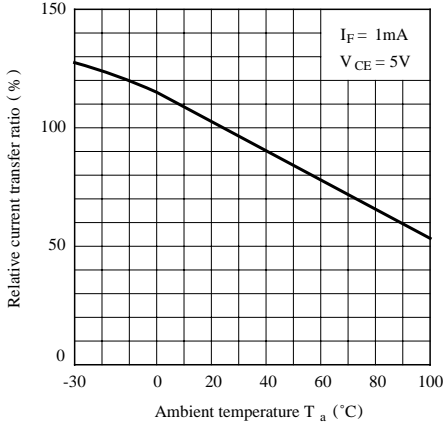


Fig.10 Collector-emitter Saturation Voltage vs. Ambient Temperature

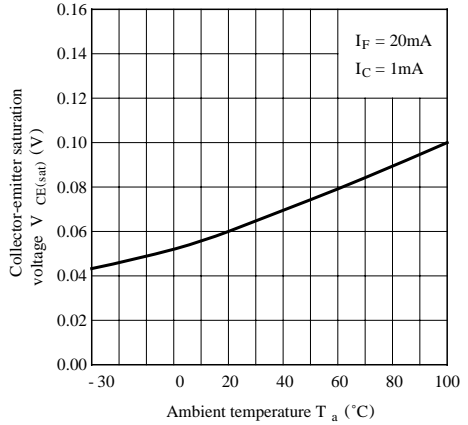


Fig.11 Collector Dark Current vs. Ambient Temperature

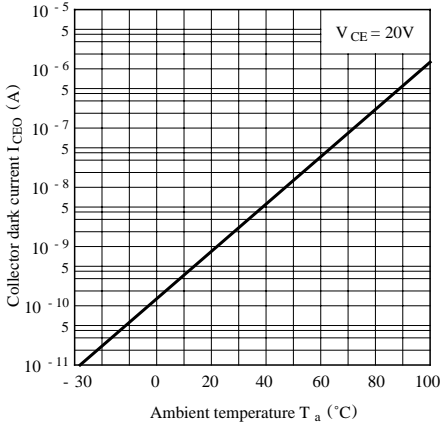


Fig.12 Response Time vs. Load Resistance

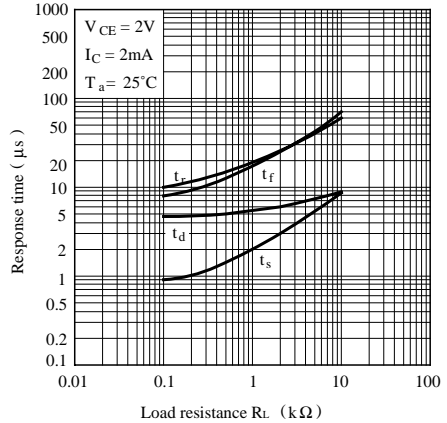
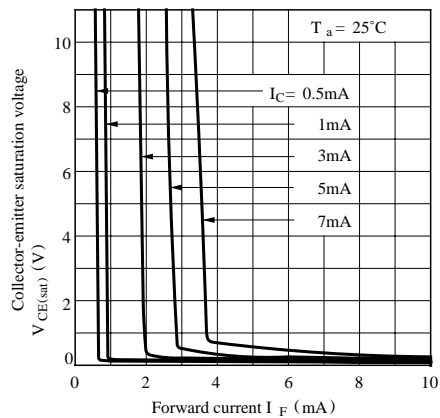


Fig.13 Collector-emitter Saturation Voltage vs. Forward Current



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

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