

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

### ■ Applications

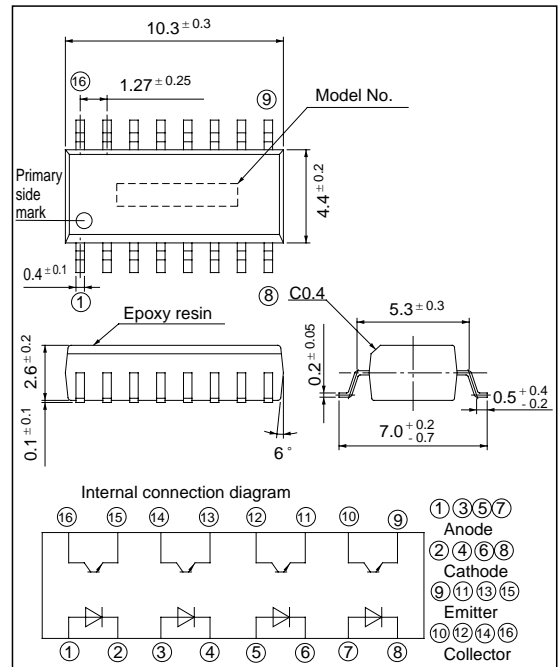
1. Programmable controllers

### ■ Package Specifications

Model No.	Package specifications
PC3Q66Q	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	$V_{CEO}$	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 <sub>rms</sub>
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

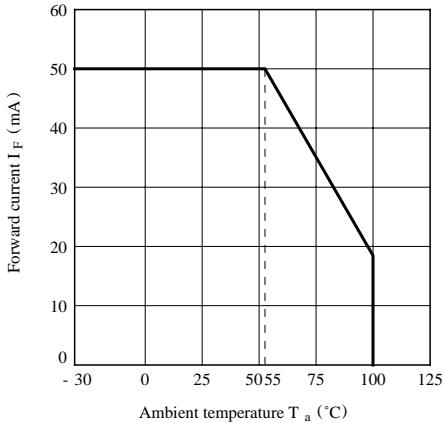
\*3 For 10seconds

**■ Electro-optical Characteristics**

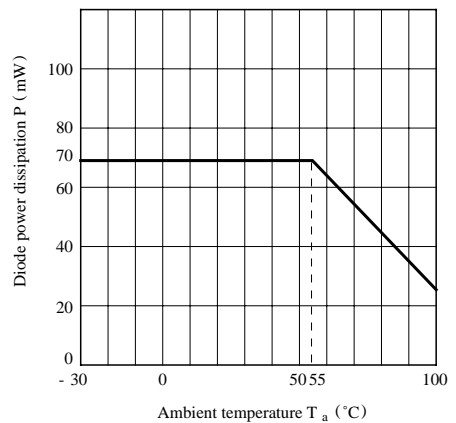
(T<sub>a</sub> = 25°C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward current	V <sub>F</sub>	I <sub>F</sub> = 20mA	-	1.2	1.4	V
	Reverse current	I <sub>R</sub>	V <sub>R</sub> = 4V	-	-	10	μA
	Terminal capacitance	C <sub>t</sub>	V = 0, f = 1kHz	-	30	250	pF
Output	Collector dark current	I <sub>CEO</sub>	V <sub>CE</sub> = 20V, I <sub>F</sub> = 0	-	-	100	nA
	Collector-emitter breakdown voltage	BV <sub>CEO</sub>	I <sub>C</sub> = 0.1mA, I <sub>F</sub> = 0	80	-	-	V
	Emitter-collector breakdown voltage	BV <sub>ECO</sub>	I <sub>E</sub> = 10 μA, I <sub>F</sub> = 0	6	-	-	V
Transfer characteristics	Collector current	I <sub>C</sub>	I <sub>F</sub> = 1mA, V <sub>CE</sub> = 5V	1	-	4	mA
	Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>F</sub> = 20mA, I <sub>C</sub> = 1mA	-	0.1	0.2	V
	Isolation resistance	R <sub>ISO</sub>	DC500V 40 to 60% RH	5 × 10 <sup>10</sup>	10 <sup>11</sup>	-	Ω
	Floating capacitance	C <sub>f</sub>	V = 0, f = 1 MHz	-	0.6	1.0	pF
	Response time	Rise time	t <sub>r</sub>	V <sub>CE</sub> = 2V, I <sub>C</sub> = 2mA R <sub>L</sub> = 100Ω	-	6	-
Fall time		t <sub>f</sub>	-		8	-	μs

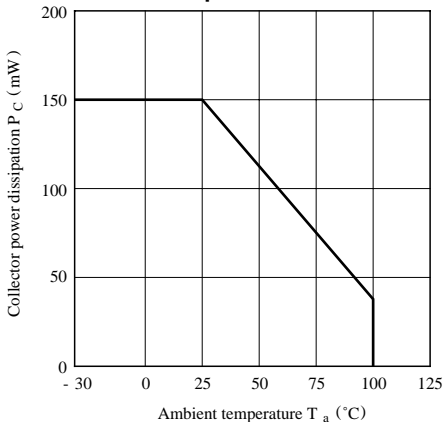
**Fig. 1 Forward Current vs. Ambient Temperature**



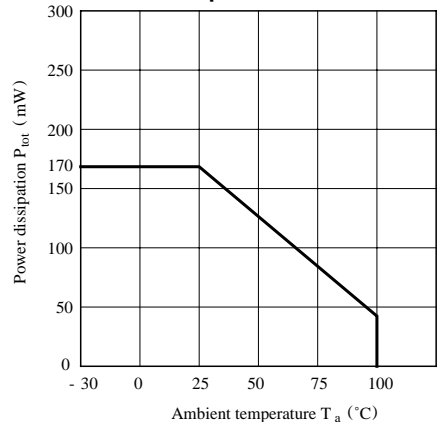
**Fig. 2 Diode Power Dissipation vs. Ambient Temperature**



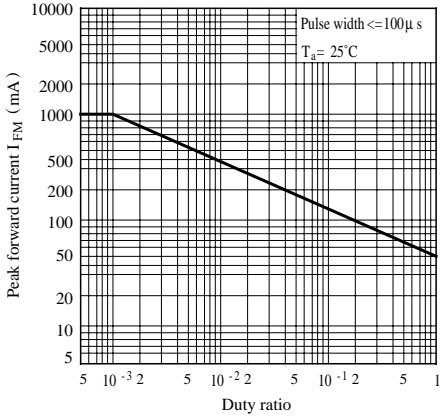
**Fig. 3 Collector Power Dissipation vs. Ambient Temperature**



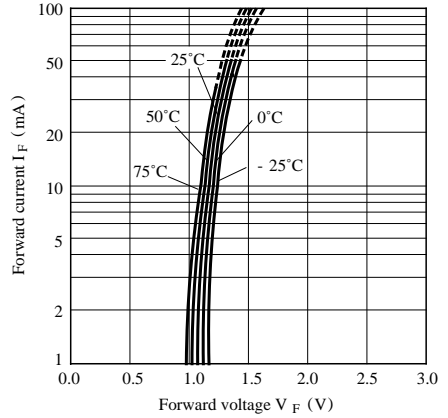
**Fig. 4 Power Dissipation vs. Ambient Temperature**



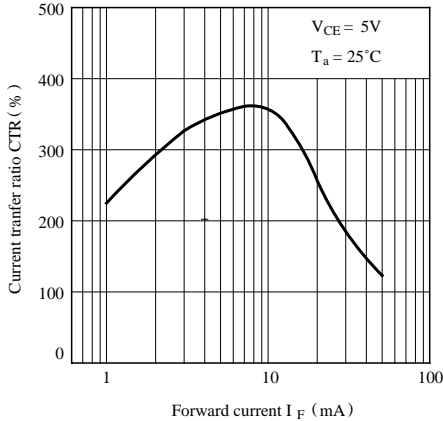
**Fig. 5 Peak Forward Current vs. Duty Ratio**



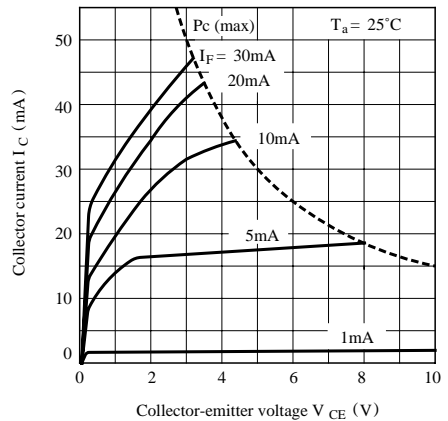
**Fig. 6 Forward Current vs. Forward Voltage**



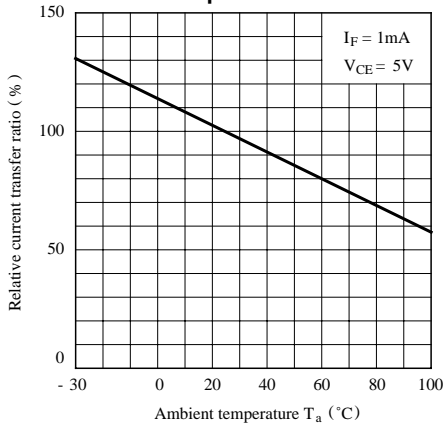
**Fig. 7 Current Transfer Ratio vs. Forward Current**



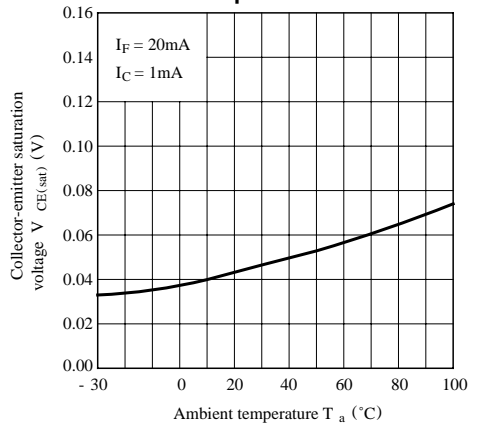
**Fig. 8 Collector Current vs. Collector-emitter Voltage**



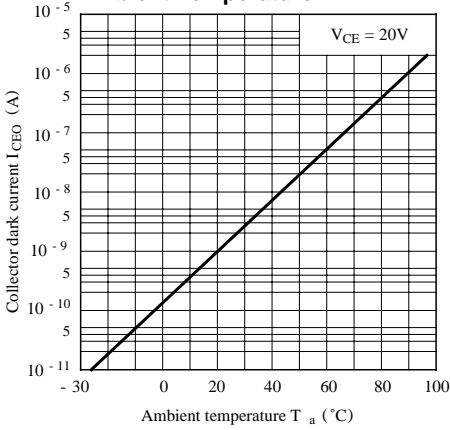
**Fig. 9 Relative Current Transfer Ratio vs. Ambient Temperature**



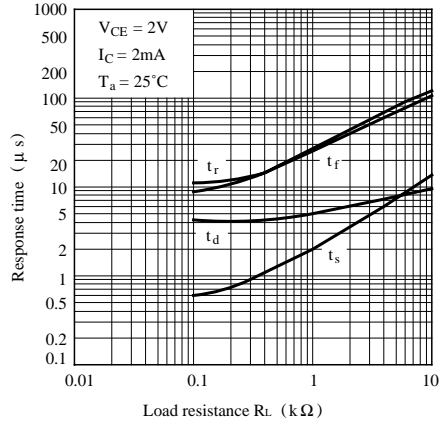
**Fig.10 Collector-emitter Saturation Voltage vs. Ambient Temperature**



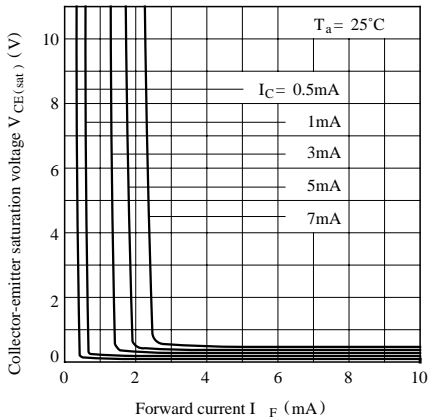
**Fig.11 Collector Dark Current vs. Ambient Temperature**



**Fig.12 Response Time vs. Load Resistance**



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



● Please refer to the chapter “Precautions for Use”