

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

■ Applications

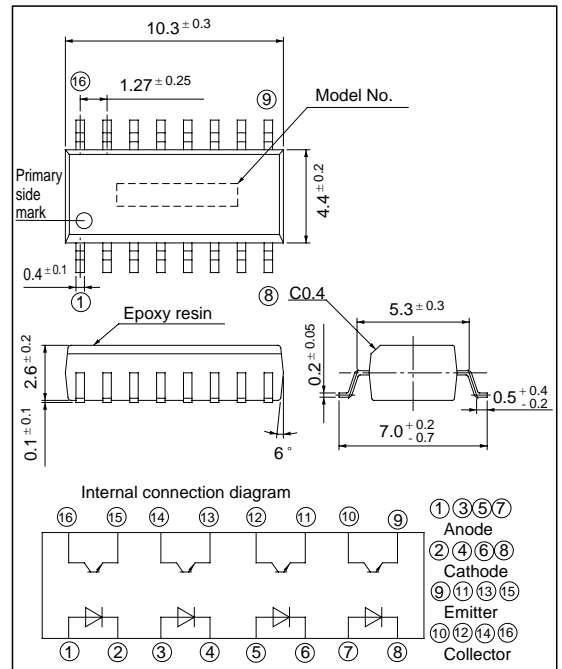
1. Programmable controllers

■ 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 _{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 10seconds

■ Electro-optical Characteristics

(T_a = 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	80	-	-	V
	Emitter-collector breakdown voltage	BV _{ECO}	I _E = 10 μA, I _F = 0	6	-	-	V
Transfer characteristics	Collector current	I _C	I _F = 1mA, V _{CE} = 5V	1	-	4	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 = 1 MHz	-	0.6	1.0	pF
	Response time	Rise time	t _r	V _{CE} = 2V, I _C = 2mA	-	6	-
Fall time		t _f	R _L = 100Ω	-	8	-	μs

Fig. 1 Forward Current vs. Ambient Temperature

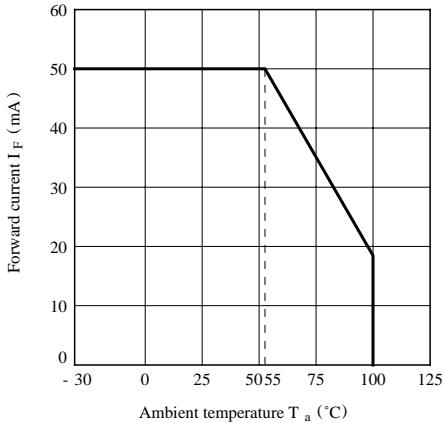


Fig. 2 Diode Power Dissipation vs. Ambient Temperature

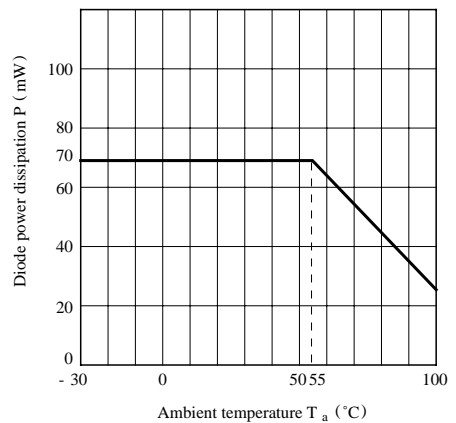


Fig. 3 Collector Power Dissipation vs. Ambient Temperature

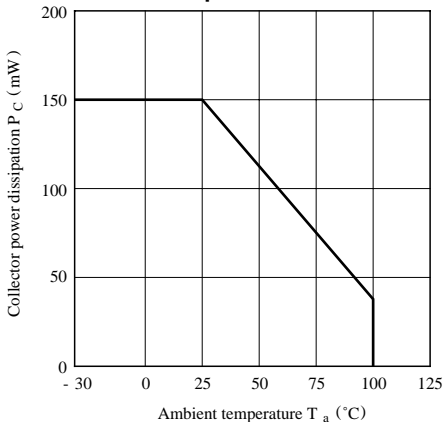


Fig. 4 Power Dissipation vs. Ambient Temperature

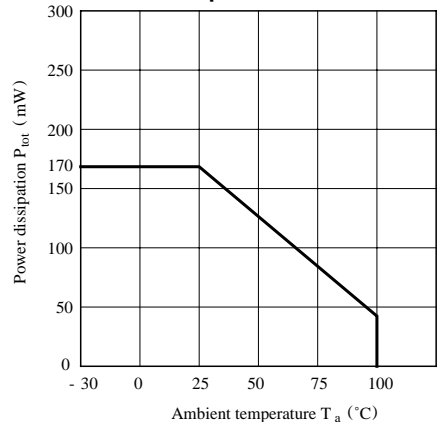


Fig. 5 Peak Forward Current vs. Duty Ratio

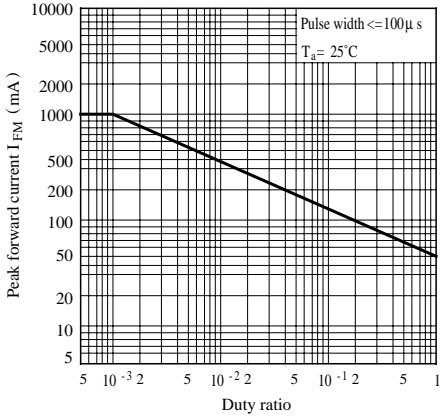


Fig. 6 Forward Current vs. Forward Voltage

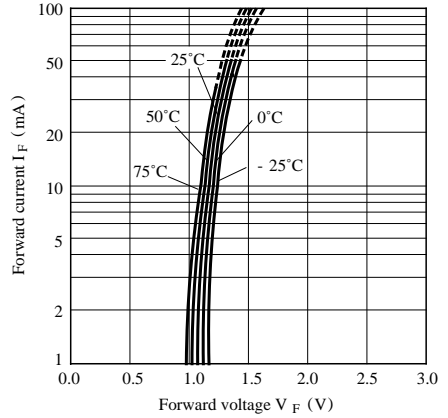


Fig. 7 Current Transfer Ratio vs. Forward Current

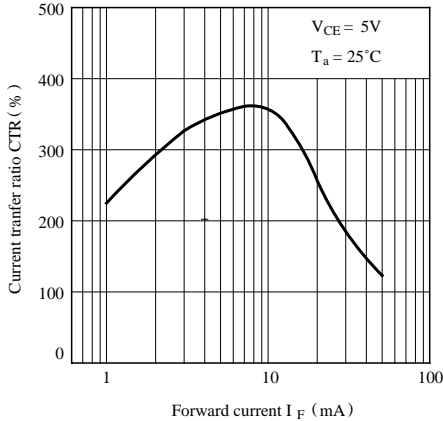


Fig. 8 Collector Current vs. Collector-emitter Voltage

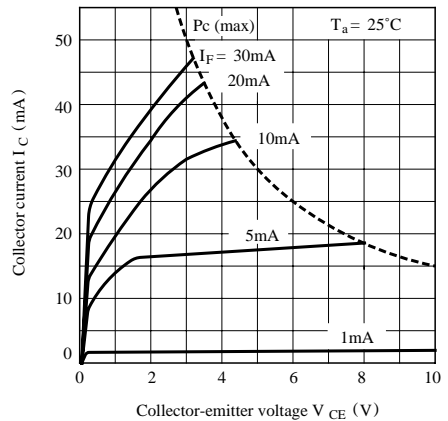


Fig. 9 Relative Current Transfer Ratio vs. Ambient Temperature

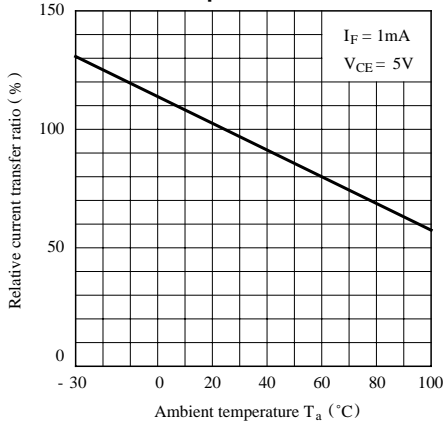


Fig.10 Collector-emitter Saturation Voltage vs. Ambient Temperature

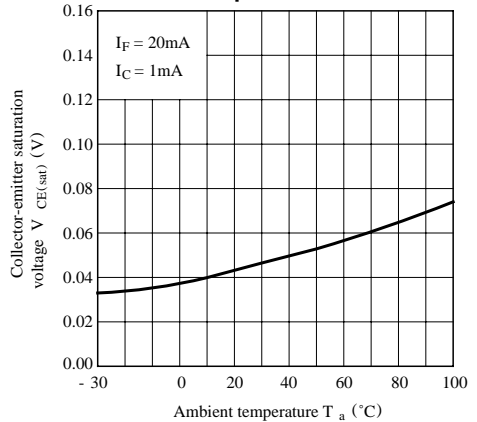


Fig.11 Collector Dark Current vs. Ambient Temperature

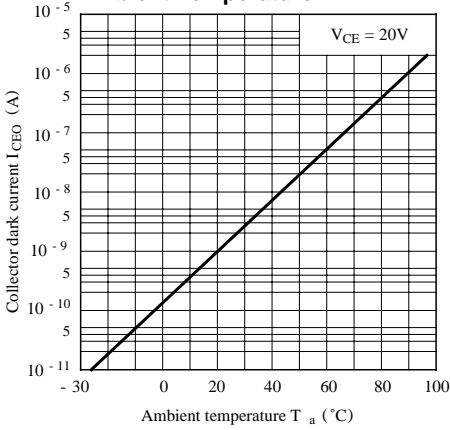


Fig.12 Response Time vs. Load Resistance

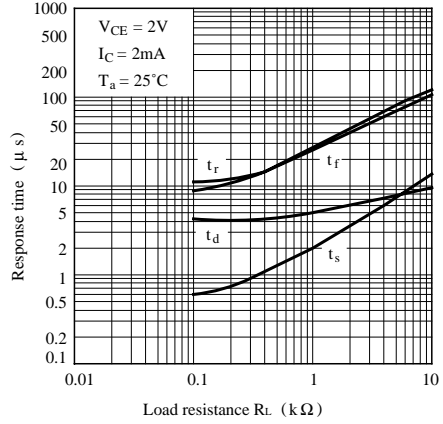
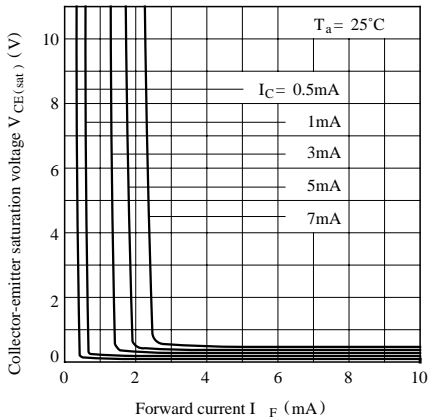


Fig.13 Collector-emitter Saturation Voltage vs. Forward Current



● Please refer to the chapter “Precautions for Use”