

CQY80X, CQY80NX
CQY80, CQY80N



ISOCOM
COMPONENTS

**OPTICALLY COUPLED
ISOLATOR
PHOTOTRANSISTOR OUTPUT**



APPROVALS

- UL recognised, File No. E91231
- **'X' SPECIFICATION APPROVALS**
- CQY80X is VDE 0884 in 3 available lead forms :-
 - STD
 - G form
 - SMD approved to CECC 00802

CQY80NX - VDE 0884 pending

- CQY80X is certified to EN60950 by the following Test Bodies :-

Nemko - Certificate No. P96101299

Fimko - Registration No. 190469-01..22

Semko - Reference No. 9620076 01

Demko - Reference No. 305567

CQY80NX - EN60950 pending

DESCRIPTION

The CQY80 series of optically coupled isolators consist of infrared light emitting diode and NPN silicon photo transistor in a standard 6 pin dual in line plastic package.

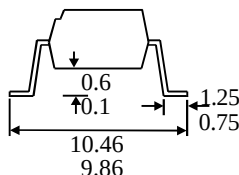
FEATURES

- Options :-
 - 10mm lead spread - add G after part no.
 - Surface mount - add SM after part no.
 - Tape&reel - add SMT&R after part no.
- High Isolation Voltage (5.3kV_{RMS}, 7.5kV_{PK})
- Custom electrical selections available

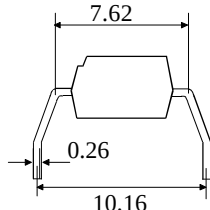
APPLICATIONS

- DC motor controllers
- Industrial systems controllers
- Signal transmission between systems of different potentials and impedances

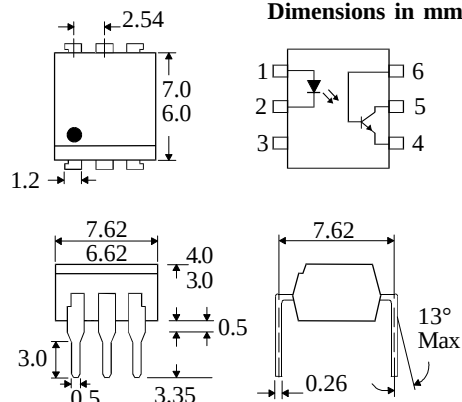
**OPTION SM
SURFACE MOUNT**



OPTION G



Dimensions in mm



ABSOLUTE MAXIMUM RATINGS

(25°C unless otherwise specified)

Storage Temperature _____ -55°C to + 150°C
Operating Temperature _____ -55°C to + 100°C
Lead Soldering Temperature
(1/16 inch (1.6mm) from case for 10 secs) 260°C

INPUT DIODE

Forward Current _____ 60mA
Reverse Voltage _____ 6V
Power Dissipation _____ 105mW

OUTPUT TRANSISTOR

Collector-emitter Voltage BV_{CEO} _____ 32V
Collector-base Voltage BV_{CBO} _____ 70V
Emitter-collector Voltage BV_{ECO} _____ 6V
Power Dissipation _____ 160mW

POWER DISSIPATION

Total Power Dissipation _____ 200mW
(derate linearly 2.67mW/°C above 25°C)

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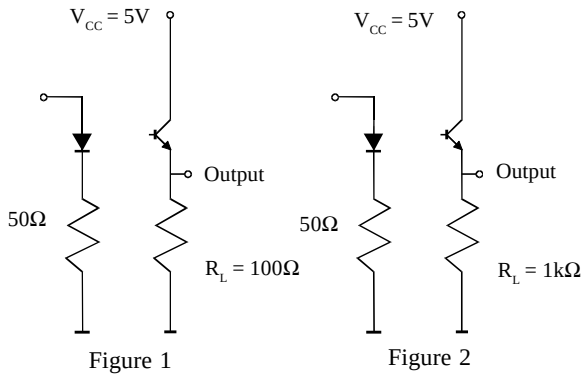
ELECTRICAL CHARACTERISTICS (T_A = 25°C Unless otherwise noted)

PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V _F)	6	1.2	1.60	V	I _F = 50mA I _R = 10μA V _R = 6V
	Reverse Voltage (V _R)			10	V	
	Reverse Current (I _R)				μA	
Output	Collector-emitter Breakdown (BV _{CEO}) (Note 2)	32		200	V	I _C = 1mA
	Emitter-collector Breakdown (BV _{ECO})	6			V	I _E = 100μA
	Collector-emitter Dark Current (I _{CEO})				nA	V _{CE} = 20V
Coupled	I _C / I _F (CTR) (Note 2)	0.5		0.3		10mA I _F , 5V V _{CE}
	Current Transfer Ratio (CTR) (Note 2)	50			%	10mA I _F , 5V V _{CE}
	Collector-emitter Saturation VoltageV _{CE(SAT)}				V	10mA I _F , 1mA I _C
	Input to Output Isolation Voltage V _{ISO}	5300 7500			V _{RMS} V _{PK}	See note 1 See note 1
	Input-output Isolation Resistance R _{ISO}	5x10 ¹⁰			Ω	V _{IO} = 500V (note 1)

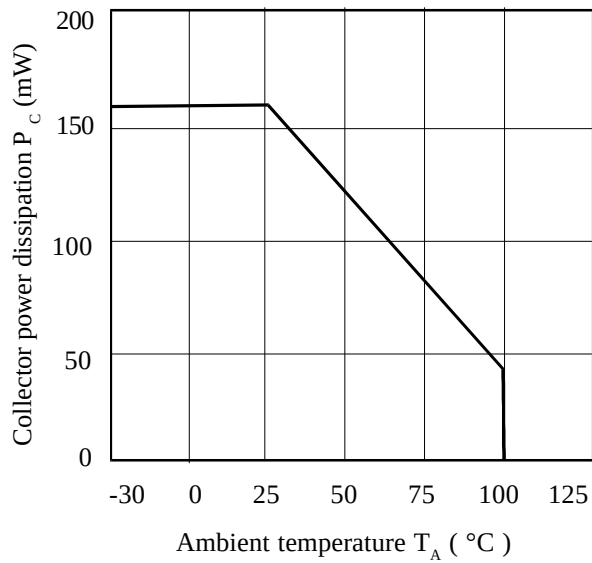
Note 1 Measured with input leads shorted together and output leads shorted together.

Note 2 Special Selections are available on request. Please consult the factory.

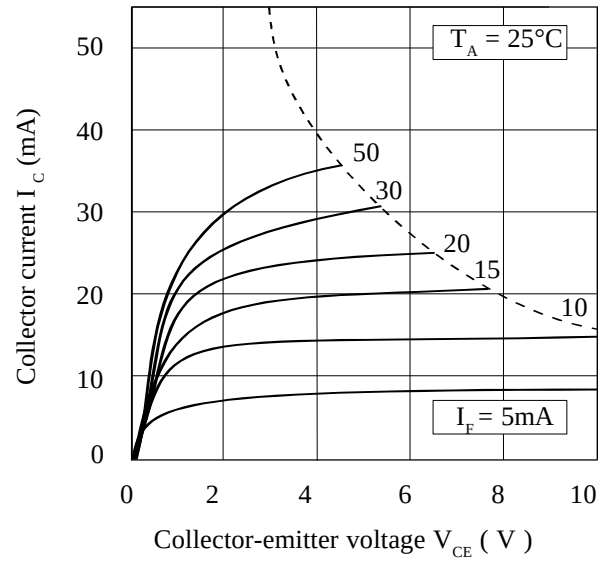
Type	R _L = 100Ω see fig 1							R _L = 1kΩ see fig 2		
	td μs	tr μs	ton μs	ts μs	tf μs	toff μs	I _C mA	ton μs	toff μs	I _F mA
CQY80 CQY80N	4.0	7.0	11.0	0.3	6.7	7.0	5	25.0	42.5	10



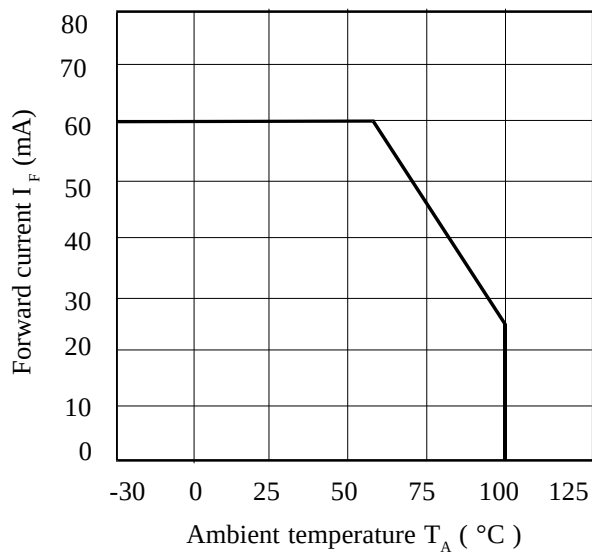
Collector Power Dissipation vs. Ambient Temperature



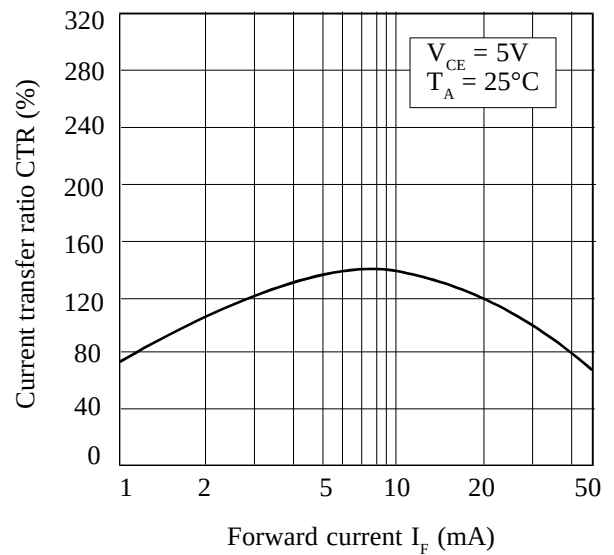
Collector Current vs. Collector-emitter Voltage



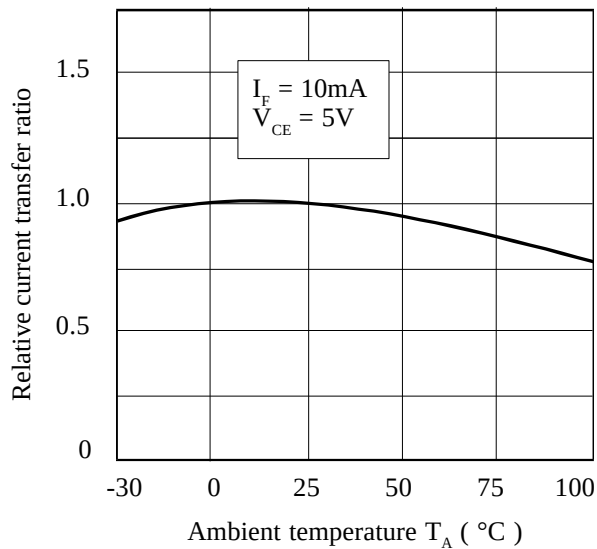
Forward Current vs. Ambient Temperature



Current Transfer Ratio vs. Forward Current



Relative Current Transfer Ratio vs. Ambient Temperature



Collector-emitter Saturation Voltage vs. Ambient Temperature

