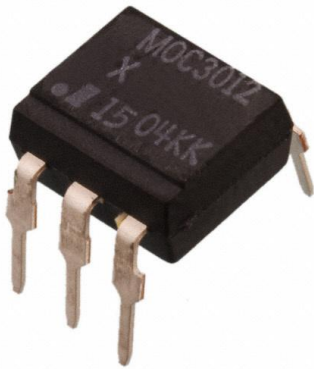


CNY17-2 Datasheet

www.digi-electronics.com



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	CNY17-2-DG
Manufacturer	Isocom Components 2004 LTD
Manufacturer Product Number	CNY17-2
Description	6PIN TRANSISTOR DETECTOR, SINGLE
Detailed Description	Optoisolator Transistor with Base Output 5300Vrms 1 Channel 6-DIP

This model CNY17-2 is available at DiGi Electronics.

DiGi Electronics offers a global database of semiconductor and electronic component datasheets.

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Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.

Purchase and inquiry

Manufacturer Product Number:

CNY17-2

Series:

CNY17-2

Number of Channels:

1

Current Transfer Ratio (Min):

63% @ 10mA

Turn On / Turn Off Time (Typ):

4.2 μ s, 23 μ s

Input Type:

DC

Voltage - Output (Max):

70V

Voltage - Forward (Vf) (Typ):

1.2V

Vce Saturation (Max):

400mV

Mounting Type:

Through Hole

Supplier Device Package:

6-DIP

Manufacturer:

Isocom Components 2004 LTD

Product Status:

Active

Voltage - Isolation:

5300Vrms

Current Transfer Ratio (Max):

125% @ 10mA

Rise / Fall Time (Typ):

3 μ s, 14 μ s

Output Type:

Transistor with Base

Current - Output / Channel:

50mA

Current - DC Forward (If) (Max):

60 mA

Operating Temperature:

-55°C ~ 100°C

Package / Case:

6-DIP (0.300", 7.62mm)

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.49.8000

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

CNY17-1X, CNY17-2X, CNY17-3X,
CNY17-4X, CNY17-5X CNY17-1,
CNY17-2, CNY17-3, CNY17-4,



ISOCOM
COMPONENTS

**OPTICALLY COUPLED
ISOLATOR
PHOTOTRANSISTOR OUTPUT**



APPROVALS

- UL recognised, File No. E91231
Package System GG
- 'X' SPECIFICATION APPROVALS**
 - VDE 0884 in 3 available lead forms :-
 - STD
 - G form
 - SMD approved to CECC 00802
- Certified to EN60950 by

Nemko - Certificate No. P01102464

DESCRIPTION

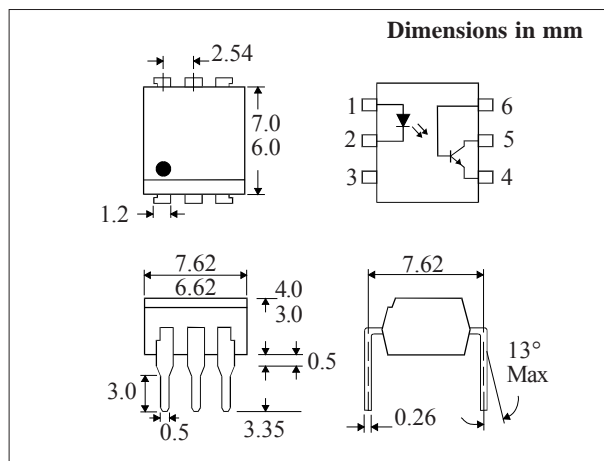
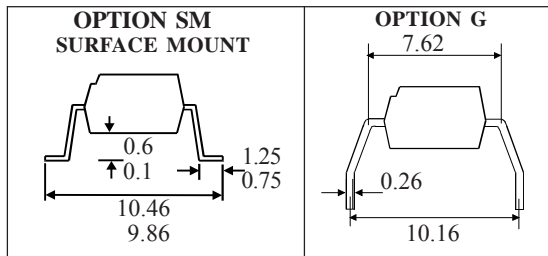
The CNY17-1, CNY17-2, CNY17-3, CNY17-4, CNY17-5 series of optically coupled isolators consist of an infrared light emitting diode and a NPN silicon photo transistor in a standard 6 pin dual in line plastic package.

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 BV_{CEO} (70V min)
- High Isolation Voltage ($5.3kV_{RMS}, 7.5kV_{PK}$)
- All electrical parameters 100% tested
- Custom electrical selections available

APPLICATIONS

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



**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}	70V
Collector-base Voltage BV_{CBO}	70V
Emitter-collector Voltage BV_{ECO}	7V
Collector Current	50mA
Power Dissipation	160mW

POWER DISSIPATION

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

ISOCOM COMPONENTS 2004 LTD

Unit 25B, Park View Road West,
Park View Industrial Estate, Brenda Road
Hartlepool, TS25 1UD England
Tel: (01429)863609 Fax: (01429)863581 e-mail
sales@isocom.co.uk http://www.isocom.com

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ Unless otherwise noted)

PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)		1.2	1.65	V	$I_F = 60\text{mA}$
	Reverse Current (I_R)			10	μA	$V_R = 6\text{V}$
Output	Collector-emitter Breakdown (BV_{CE0})	70			V	$I_C = 1\text{mA}$ (Note 2)
	Collector-base Breakdown (BV_{CBO})	70			V	$I_C = 100\mu\text{A}$
	Emitter-collector Breakdown (BV_{ECO})	7			V	$I_E = 100\mu\text{A}$
	Collector-emitter Dark Current (I_{CEO})			50	nA	$V_{CE} = 10\text{V}$
Coupled	Current Transfer Ratio (CTR) (Note 2)					
	CNY17-1	40	80		%	$10\text{mA } I_F, 5\text{V } V_{CE}$
	CNY17-2	63	125		%	$10\text{mA } I_F, 5\text{V } V_{CE}$
	CNY17-3	100	200		%	$10\text{mA } I_F, 5\text{V } V_{CE}$
	CNY17-4	160	320		%	$10\text{mA } I_F, 5\text{V } V_{CE}$
	CNY17-5	200	400		%	$10\text{mA } I_F, 5\text{V } V_{CE}$
	Collector-emitter Saturation Voltage $V_{CE(SAT)}$			0.4	V	$10\text{mA } I_F, 2.5\text{mA}$
	Input to Output Isolation Voltage V_{ISO}	5300			V_{RMS}	See note 1
	Input-output Isolation Resistance R_{ISO}	5×10^{10}			Ω	$V_{IO} = 500\text{V}$ (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.

TYPICAL SWITCHING CHARACTERISTICS

1. Linear Operation (without saturation) Fig 1.
 $I_F = 10\text{mA}$, $V_{CC} = 5\text{V}$, $R_L = 75\Omega$

			UNITS
Turn-on Time	t_{on}	3.0	μs
Rise Time	t_r	2.0	μs
Turn-off Time	t_{off}	2.3	μs
Fall Time	t_f	2.0	μs
Cut-off Frequency	F_{CO}	250	kHz

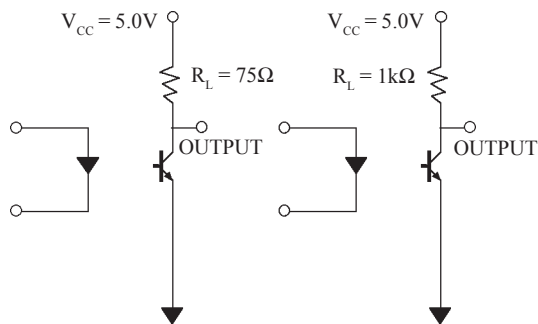
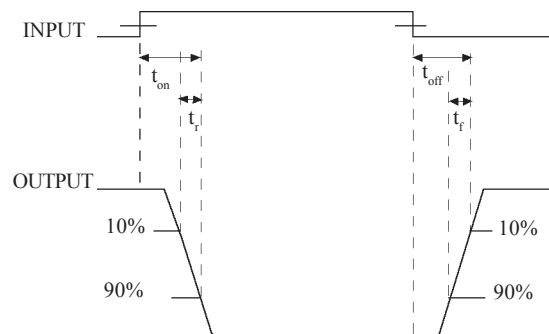


FIG 1

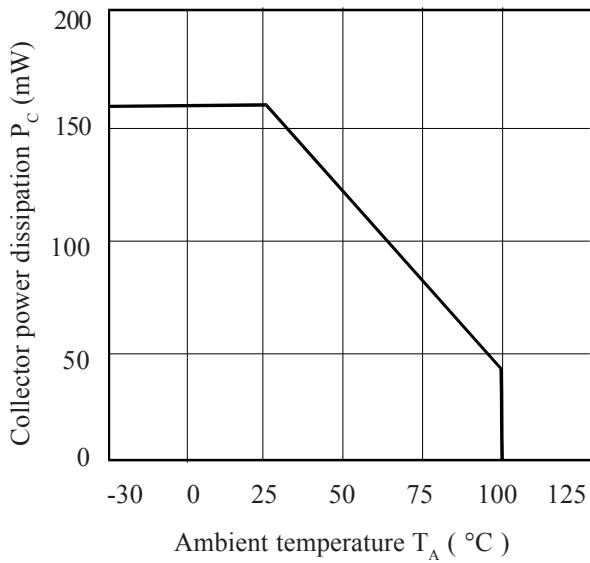
FIG 2

2. Switching Operation (with saturation) Fig 2
 $V_{CC} = 5\text{V}$, $R_L = 1\text{k}\Omega$

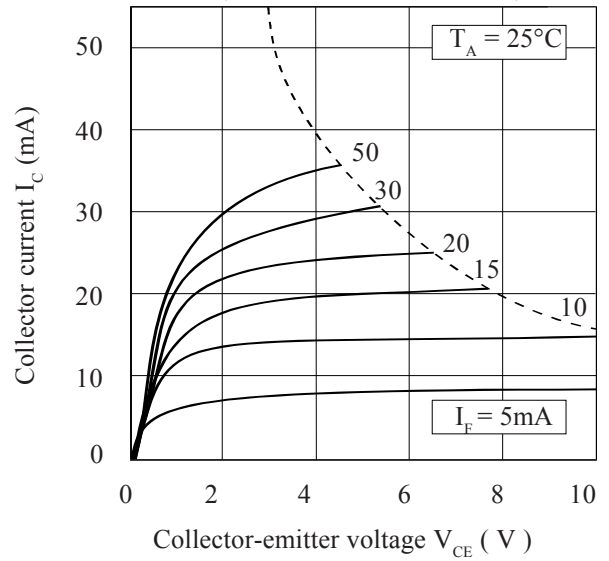
GROUP	-1 ($I_F = 20\text{mA}$)	-2 and -3 ($I_F = 10\text{mA}$)	-4 ($I_F = 5\text{mA}$)	UNITS	
Turn-on Time	t_{on}	3.0	4.2	6.0	μs
Rise Time	t_r	2.0	3.0	4.6	μs
Turn-off Time	t_{off}	18	23	25	μs
Fall Time	t_f	11	14	15	μs
	V_{CESAT}	≤ 0.4			V



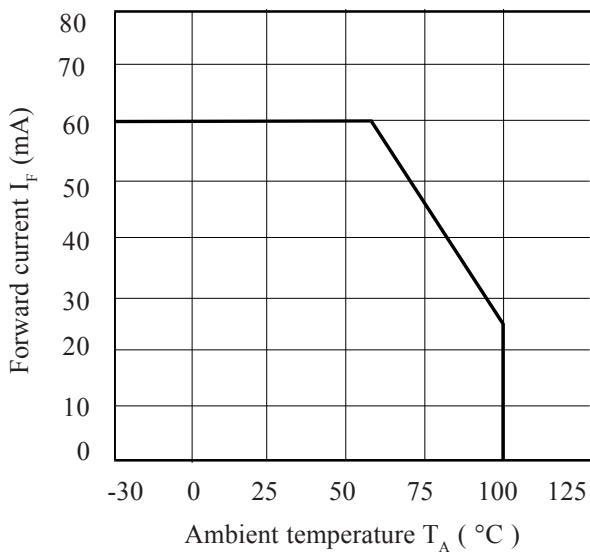
Collector Power Dissipation vs. Ambient Temperature



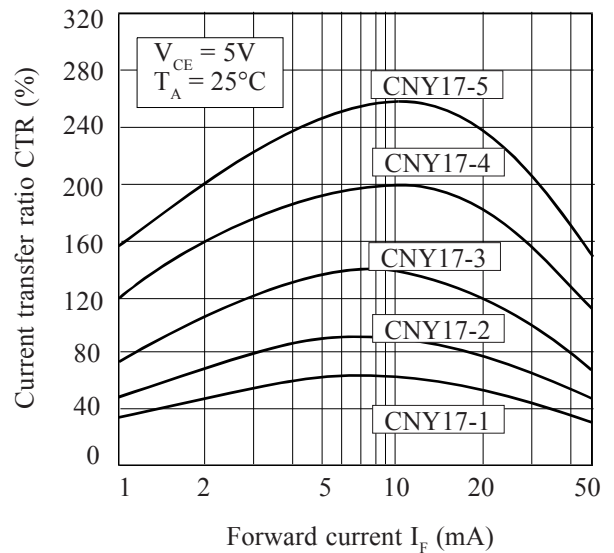
Collector Current vs. Collector-emitter Voltage (normalised to CNY17-3)



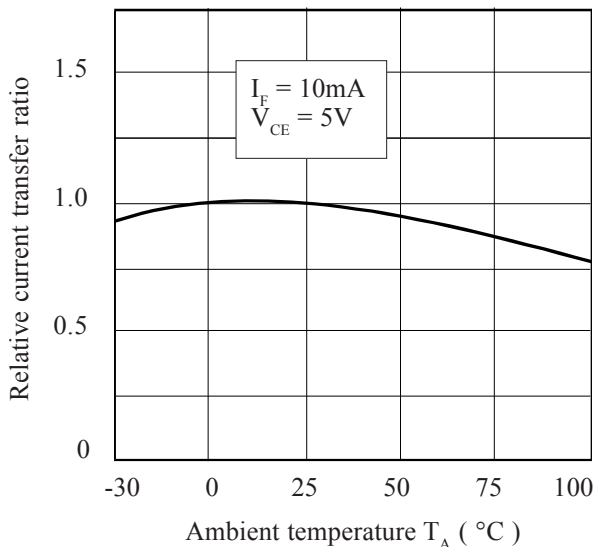
Forward Current vs. Ambient Temperature



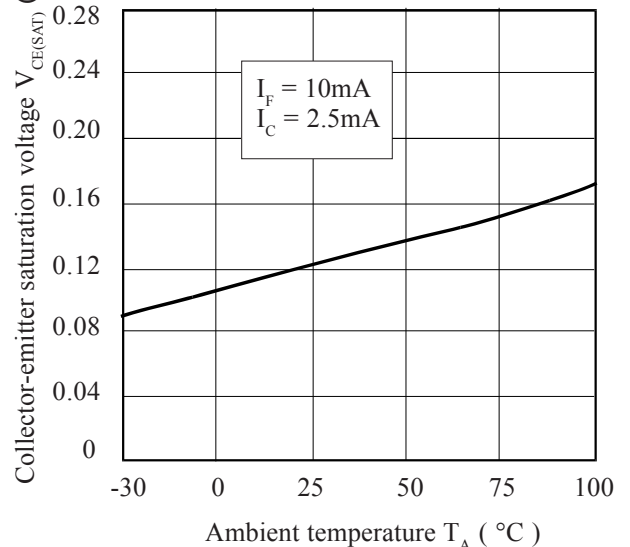
Current Transfer Ratio vs. Forward Current



Relative Current Transfer Ratio vs. Ambient Temperature



Collector-emitter Saturation Voltage vs. Ambient Temperature



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