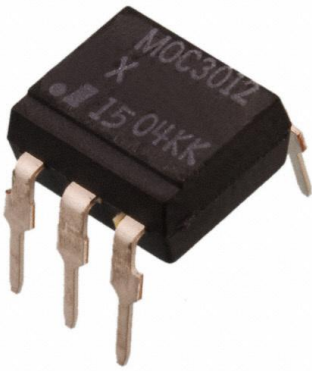


# MCT2EG Datasheet

www.digi-electronics.com



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

|                              |   |
|------------------------------|---|
| DiGi Electronics Part Number | MCT2EG-DG   |
| Manufacturer                 | <a href="#">Isocom Components 2004 LTD</a>                      |
| Manufacturer Product Number  | MCT2EG  |
| Description                  | 6PIN TRANSISTOR DETECTOR, SINGLE                                |
| Detailed Description         | Optoisolator Transistor with Base Output 7.5Vpk 1 Channel 6-DIP |

This model MCT2EG is available at DiGi Electronics.

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

We welcome your inquiries regarding pricing, lead time, or other product-related questions.

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Tel: +00 852-30501935

RFQ Email: [Info@DiGi-Electronics.com](mailto:Info@DiGi-Electronics.com)

DiGi is a global authorized distributor of electronic components.

## Purchase and inquiry

Manufacturer Product Number:

MCT2EG

Series:

MCT2

Number of Channels:

1

Current Transfer Ratio (Min):

50% @ 10mA

Turn On / Turn Off Time (Typ):

3 $\mu$ s, 3 $\mu$ s

Input Type:

DC

Voltage - Output (Max):

30V

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:

7.5Vpk

Current Transfer Ratio (Max):

-

Rise / Fall Time (Typ):

-

Output Type:

Transistor with Base

Current - Output / Channel:

-

Current - DC Forward (If) (Max):

60 mA

Operating Temperature:

-55°C ~ 100°C

Package / Case:

6-DIP (0.400", 10.16mm)

## Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.49.8000

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

**MCT2X, MCT2EX  
MCT2, MCT2E**



**ISOCOM**  
COMPONENTS

**OPTICALLY COUPLED  
ISOLATOR  
PHOTOTRANSISTOR OUTPUT**



**APPROVALS**

- UL recognised, File No. E91231
- **'X' SPECIFICATION APPROVALS**
- VDE 0884 in 3 available lead form : -  
- STD  
- G form  
- SMD approved to CECC 00802
- Certified to EN60950 by the following Test Bodies :-  
Nemko - Certificate No. P01102465  
Fimko - Certificate No. FI18162  
Semko - Reference No. 0202041/01-25  
Demko - Certificate No. 311161-01
- BSI approved - Certificate No. 8001

**DESCRIPTION**

The MCT2 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.

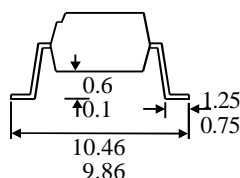
**FEATURES**

- 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<sub>RMS</sub>, 7.5kV<sub>PK</sub>)
- All electrical parameters 100% tested
- Custom electrical selections available

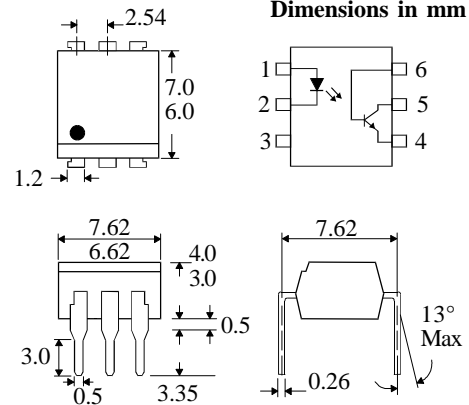
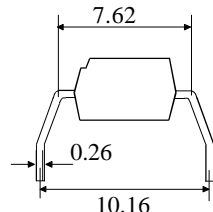
**APPLICATIONS**

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

**OPTION SM  
SURFACE MOUNT**



**OPTION G**



**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  $BV_{CEO}$  \_\_\_\_\_ 30V  
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)

**ISOCOM COMPONENTS LTD**

Unit 25B, Park View Road West,  
Park View Industrial Estate, Brenda Road  
Hartlepool, Cleveland, TS25 1YD  
Tel: (01429) 863609 Fax :(01429) 863581

**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    | 1.5 | V                              | $I_F = 10\text{mA}$   |
|           | Reverse Current ( $I_R$ )                                |                    |        | 10  | $\mu\text{A}$                  | $V_R = 6\text{V}$   |
| Output    | Collector-emitter Breakdown ( $BV_{CEO}$ )<br>( note 2 ) | 30                 |        |     | V                              | $I_C = 1\text{mA}$  |
|           | Collector-base Breakdown ( $BV_{CBO}$ )                  | 70                 |        |     | V                              | $I_C = 100\mu\text{A}$  |
|           | Emitter-collector Breakdown ( $BV_{ECO}$ )               | 6                  |        |     | V                              | $I_E = 100\mu\text{A}$  |
|           | Collector-emitter Dark Current ( $I_{CEO}$ )             |                    |        | 50  | nA                             | $V_{CE} = 10\text{V}$   |
|           | Collector-base Dark Current ( $I_{CBO}$ )                |                    |        | 20  | nA                             | $V_{CE} = 10\text{V}$   |
| Coupled   | Current Transfer Ratio (CTR)<br>MCT2                     | 20                 |        |     | %                              | $10\text{mA } I_F, 10\text{V } V_{CE}$                                  |
|           | MCT2E  | 50                 |        |     | %                              | $10\text{mA } I_F, 10\text{V } V_{CE}$                                  |
|           | Collector-emitter Saturation Voltage $V_{CE(SAT)}$       |                    |        | 0.4 | V                              | $16\text{mA } I_F, 2\text{mA } I_C$                                     |
|           | Input to Output Isolation Voltage $V_{ISO}$              | 5300<br>7500       |        |     | $V_{RMS}$<br>$V_{PK}$          | See note 1<br>See note 1  |
|           | Input-output Isolation Resistance $R_{ISO}$              | $5 \times 10^{10}$ |        |     | $\Omega$                       | $V_{IO} = 500\text{V}$ (note 1)   |
|           | Turn-on Time $t_{on}$<br>Turn-off Time $t_{off}$         |                    | 3<br>3 |     | $\mu\text{s}$<br>$\mu\text{s}$ | $V_{CC} = 10\text{V}$ , fig 1<br>$I_C = 2\text{mA}$ , $R_L = 100\Omega$ |

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.

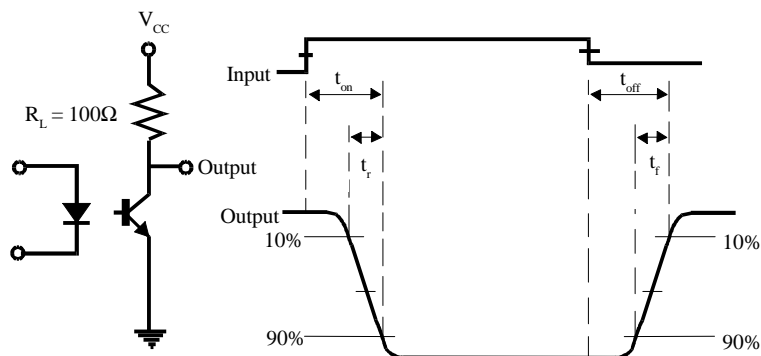
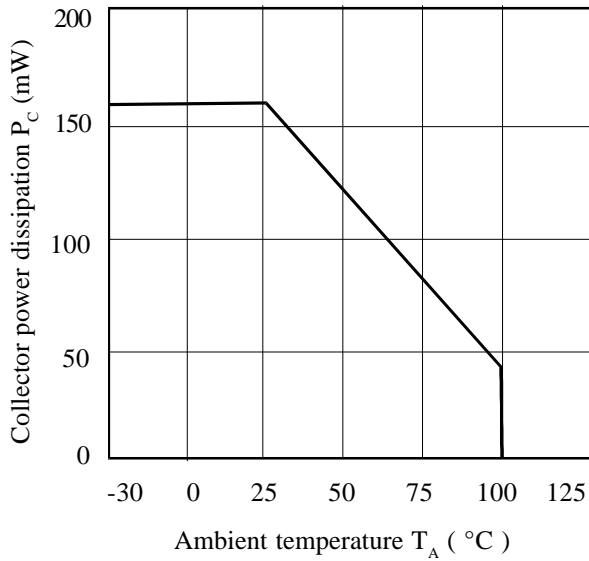
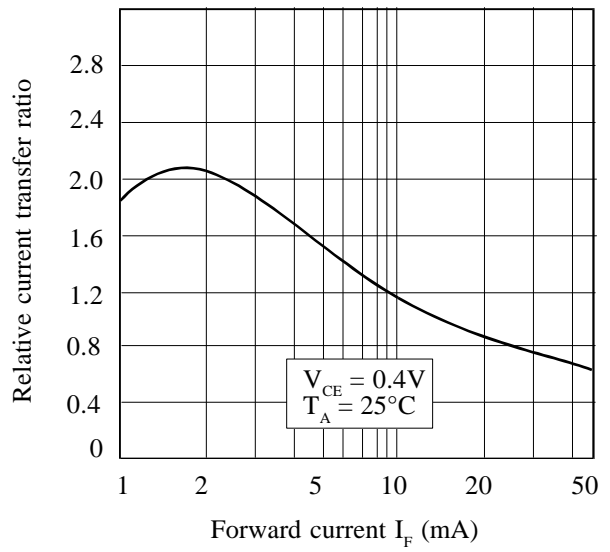


FIG 1

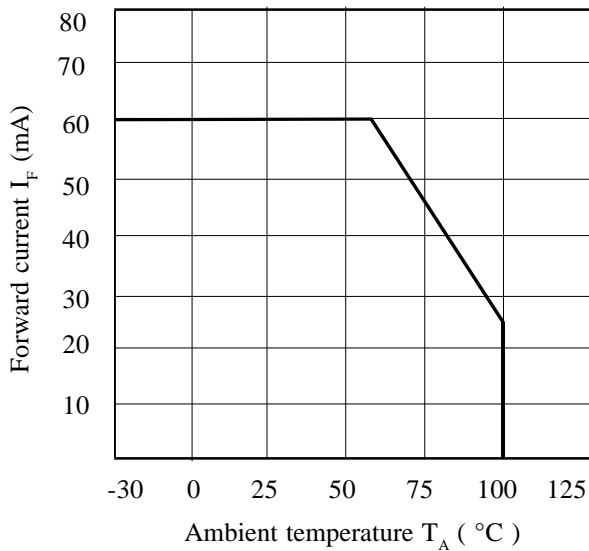
**Collector Power Dissipation vs. Ambient Temperature**



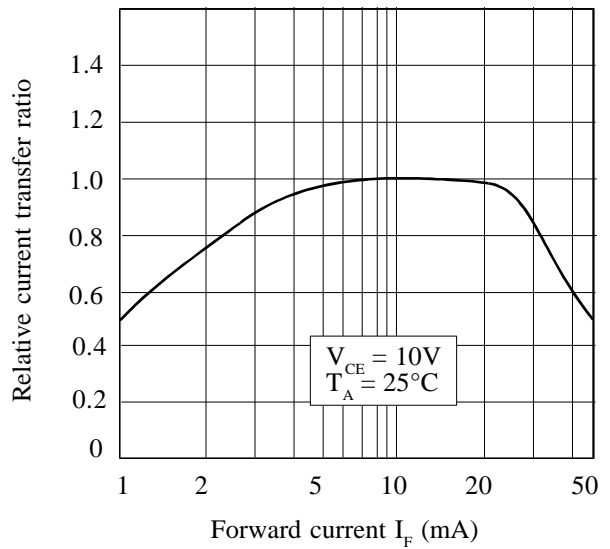
**Relative Current Transfer Ratio vs. Forward Current**



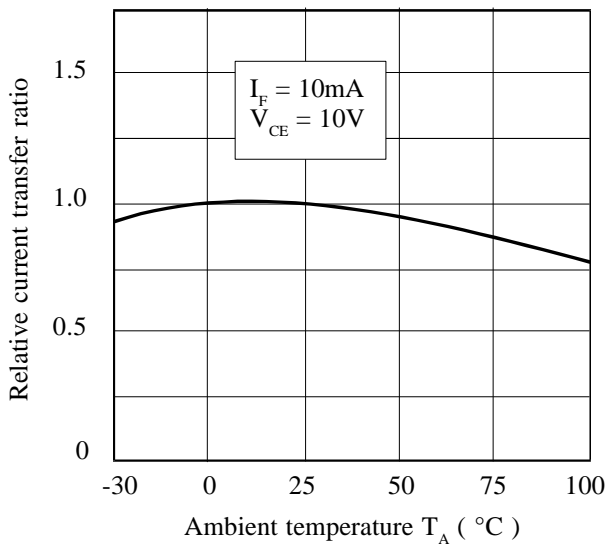
**Forward Current vs. Ambient Temperature**



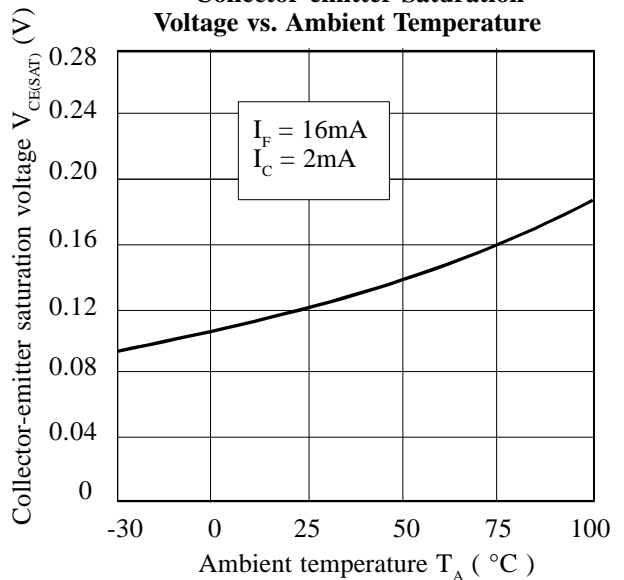
**Relative Current Transfer Ratio vs. Forward Current**



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



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



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