

MCT6, MCT61, MCT62, MCT66  
MCT6X, MCT61X, MCT62X, MCT66X



**ISOCOM**  
COMPONENTS

**HIGH DENSITY  
PHOTOTRANSISTOR OPTICALLY  
COUPLED ISOLATORS**



**APPROVALS**

- UL recognised, File No. E91231  
Package Code " FF "

**'X' SPECIFICATION APPROVALS**

- VDE 0884 in 3 available lead form :-  
- STD  
- G form  
- SMD approved to CECC 00802

**DESCRIPTION**

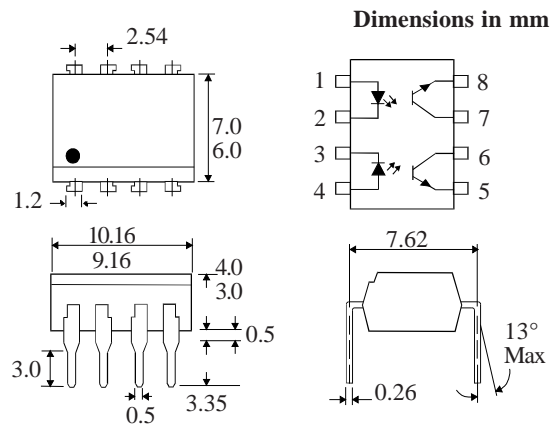
The MCT6, MCT61, MCT62 & MCT66 series of optically coupled isolators consist of infrared light emitting diodes and NPN silicon photo transistors in space efficient dual in line plastic packages mounted two channels per unit.

**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>)

**APPLICATIONS**

- Computer terminals
- Industrial systems controllers
- Measuring instruments
- Signal transmission between systems of different potentials and impedances



**ABSOLUTE MAXIMUM RATINGS  
(25°C unless otherwise specified)**

Storage Temperature \_\_\_\_\_ -40°C to +125°C  
Operating Temperature \_\_\_\_\_ -25°C to +100°C  
Lead Soldering Temperature  
(1/16 inch (1.6mm) from case for 10 secs) 260°C

**INPUT DIODE**

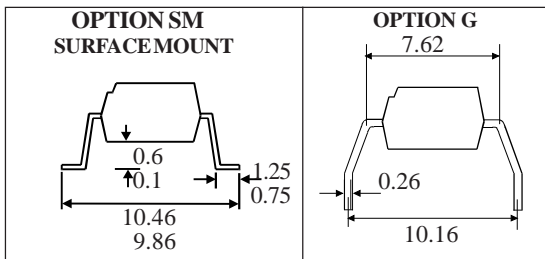
Forward Current \_\_\_\_\_ 50mA  
Reverse Voltage \_\_\_\_\_ 6V  
Power Dissipation \_\_\_\_\_ 70mW

**OUTPUT TRANSISTOR**

Collector-emitter Voltage  $BV_{CEO}$  \_\_\_\_\_ 30V  
Emitter-collector Voltage  $BV_{ECO}$  \_\_\_\_\_ 6V  
Collector Current \_\_\_\_\_ 50mA  
Power Dissipation \_\_\_\_\_ 150mW

**POWER DISSIPATION**

Total Power Dissipation \_\_\_\_\_ 170mW  
(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, Cleveland, TS25 1UD  
Tel: (01429) 863609 Fax: (01429) 863581

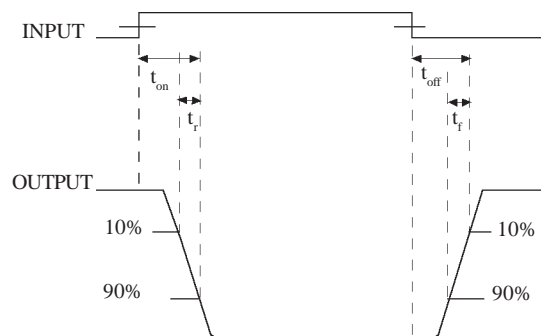
**ELECTRICAL CHARACTERISTICS (  $T_A = 25^\circ\text{C}$  Unless otherwise noted )**

PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage ( $V_F$ )			1.5	V	$I_F = 20\text{mA}$
	Reverse Current ( $I_R$ )			10	$\mu\text{A}$	$V_R = 3\text{V}$
Output	Collector-emitter Breakdown ( $BV_{CEO}$ )	30			V	$I_C = 1\text{mA}$ (note 2)
	Emitter-collector Breakdown ( $BV_{ECO}$ )	6			V	$I_E = 100\mu\text{A}$
	Collector-emitter Dark Current ( $I_{CEO}$ )			100	nA	$V_{CE} = 10\text{V}$
Coupled	Current Transfer Ratio (CTR) (Note 2)					
	MCT6	20			%	$10\text{mA } I_F, 10\text{V } V_{CE}$
	MCT61	50			%	$5\text{mA } I_F, 5\text{V } V_{CE}$
	MCT62	100			%	$5\text{mA } I_F, 5\text{V } V_{CE}$
	MCT66	6			%	$10\text{mA } I_F, 10\text{V } V_{CE}$
	Collector-emitter Saturation Voltage $V_{CESAT}$			0.4	V	$16\text{mA } I_F, 2\text{mA } I_C$
	MCT6,61,62			0.4	V	$40\text{mA } I_F, 2\text{mA } I_C$
	MCT66				$V_{RMS}$	See note 1
Input to Output Isolation Voltage $V_{ISO}$	5300					
Input-output Isolation Resistance $R_{ISO}$	$5 \times 10^{10}$				$\Omega$	$V_{IO} = 500\text{V}$ (note 1)
Output Rise Time, $t_r$		4			$\mu\text{s}$	$I_C = 2\text{mA}, V_{CE} = 2\text{V},$
Output Fall Time, $t_f$		3			$\mu\text{s}$	$R_L = 100\Omega$ (Fig. 1)

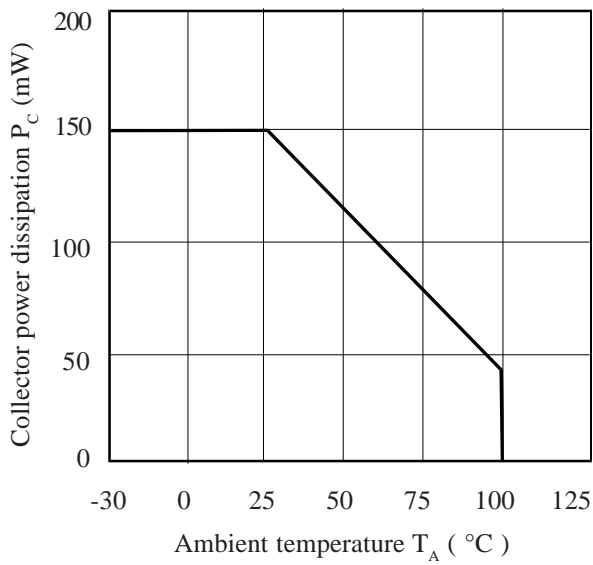
Note 1 Measured with input leads shorted together and output leads shorted together.

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

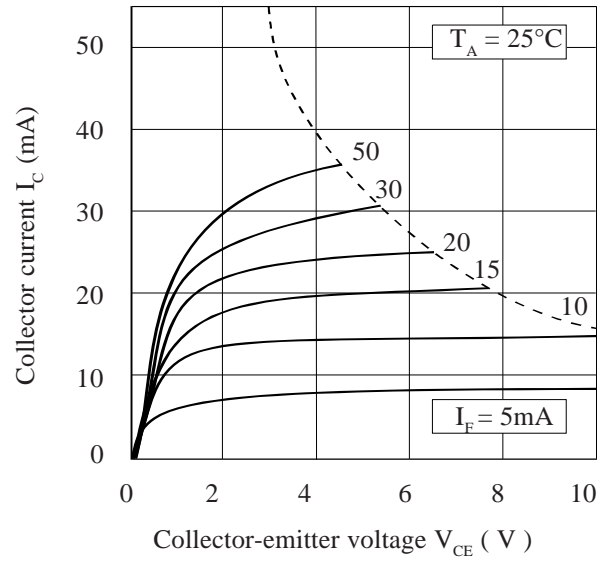
**FIG. 1**



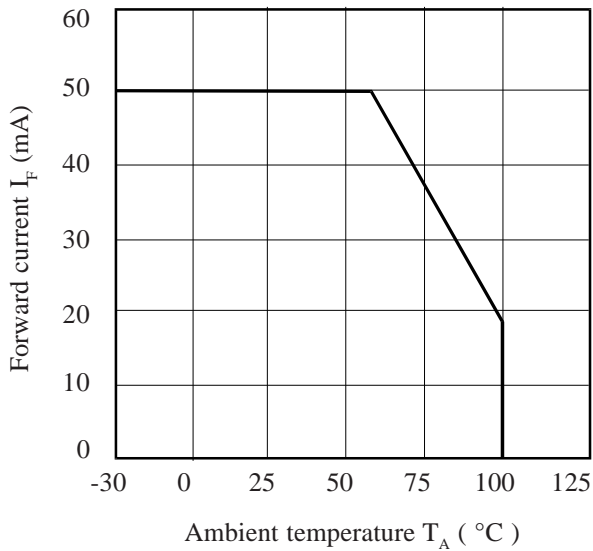
**Collector Power Dissipation vs. Ambient Temperature**



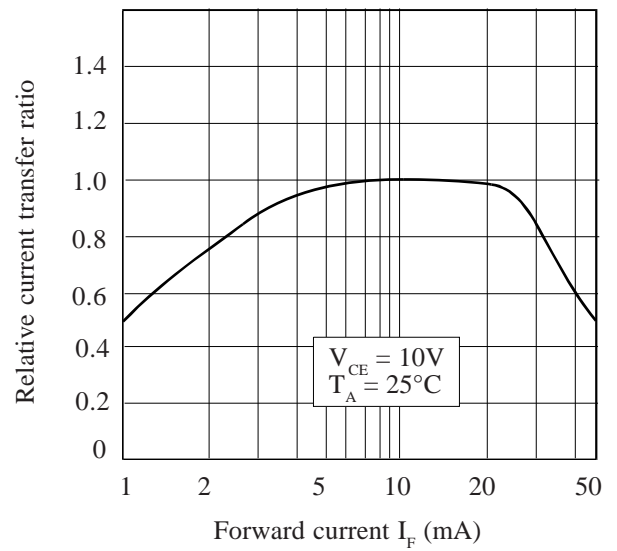
**Collector Current vs. Collector-emitter Voltage**



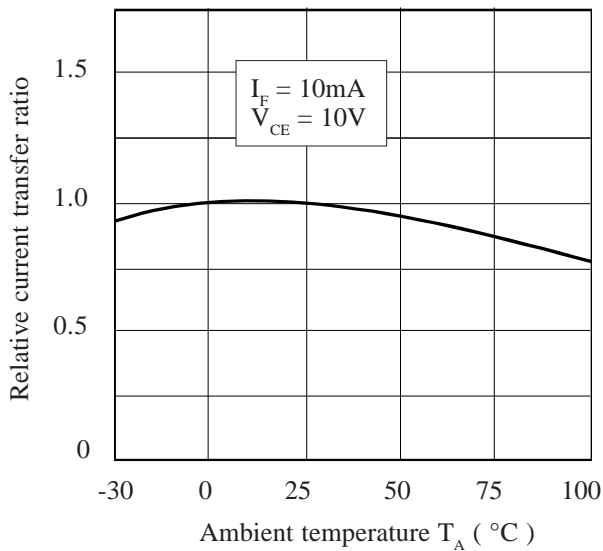
**Forward Current vs. Ambient Temperature**



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



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



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

