

MCT2200X, MCT2201X, MCT2202X,  
MCT2200, MCT2201, MCT2202



# ISOCOM

COMPONENTS



## OPTICALLY COUPLED ISOLATOR PHOTOTRANSISTOR OUTPUT

### APPROVALS

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

### DESCRIPTION

The MCT220\_ series of optically coupled isolators consist of an infrared light emitting diode and NPN silicon photo transistor in a standard 6 pin dual in line plastic package.

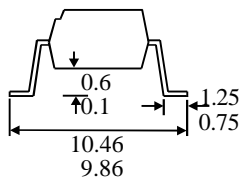
### FEATURES

- 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

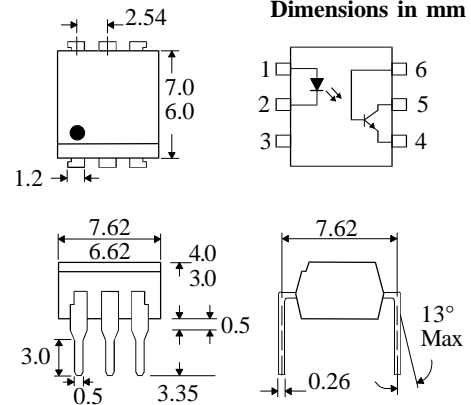
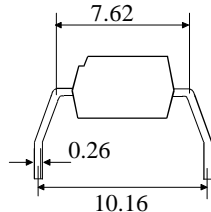
### APPLICATIONS

- 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-base Voltage  $BV_{EBO}$  \_\_\_\_\_ 5V  
 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	$I_F = 20\text{mA}$ $I_R = 10\mu\text{A}$ $V_R = 3\text{V}$	
	Reverse Voltage ( $V_R$ )	3			V		
	Reverse Current ( $I_R$ )			10	$\mu\text{A}$		
Output	Collector-emitter Breakdown ( $BV_{CEO}$ ) ( note 2 )	30			V	$I_C = 1\text{mA}$	
	Collector-base Breakdown ( $BV_{CBO}$ )	70			V	$I_C = 100\mu\text{A}$	
	Emitter-base Breakdown ( $BV_{EBO}$ )	5			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)					$10\text{mA } I_F, 5\text{V } V_{CE}$	
	MCT2200	20			%		
	MCT2201	100			%		
		MCT2202	63		125	%	
	Collector-emitter Saturation Voltage $V_{CE(SAT)}$			0.4		V	$10\text{mA } I_F, 2.5\text{mA } I_C$
	Input to Output Isolation Voltage $V_{ISO}$	5300				$V_{RMS}$	See note 1
		7500				$V_{PK}$	See note 1
Input-output Isolation Resistance $R_{ISO}$	$5 \times 10^{10}$				$\Omega$	$V_{IO} = 500\text{V}$ (note 1)	
Turn-on Time $t_{ON}$				10	$\mu\text{s}$	$V_{CC} = 5\text{V}, R_L = 100\Omega,$ $I_C = 2\text{mA}$ , (fig 1)	
Turn-off Time $t_{OFF}$				10	$\mu\text{s}$		

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.

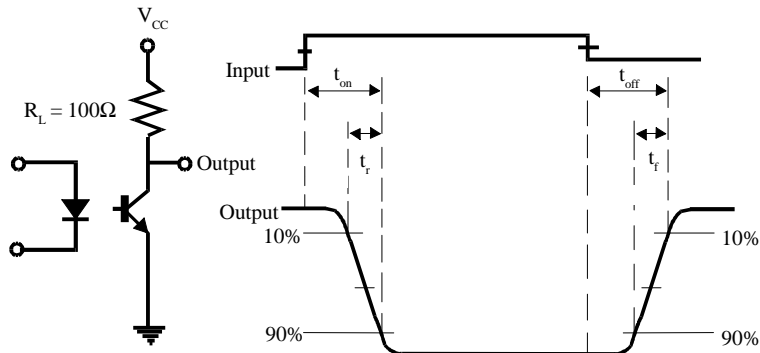
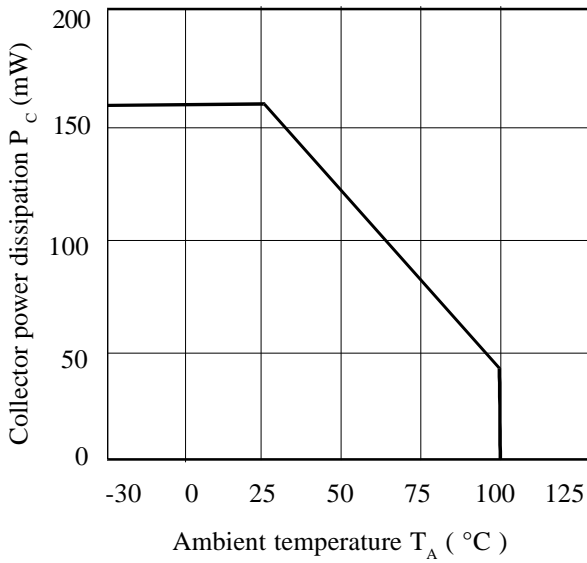
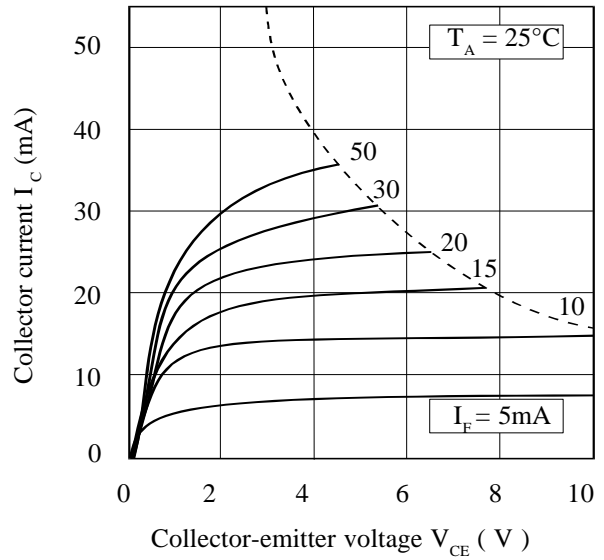


FIG 1

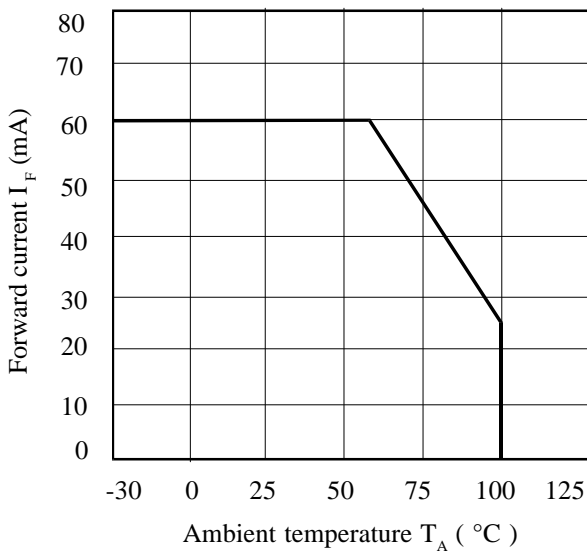
**Collector Power Dissipation vs. Ambient Temperature**



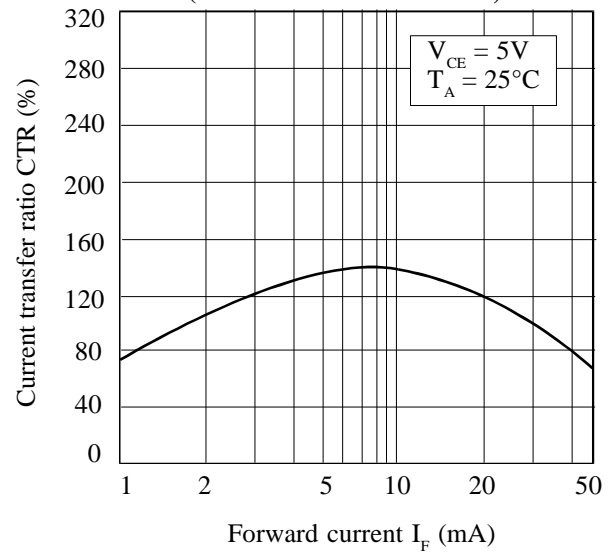
**Collector Current vs. Collector-emitter Voltage (normalised to MCT2201)**



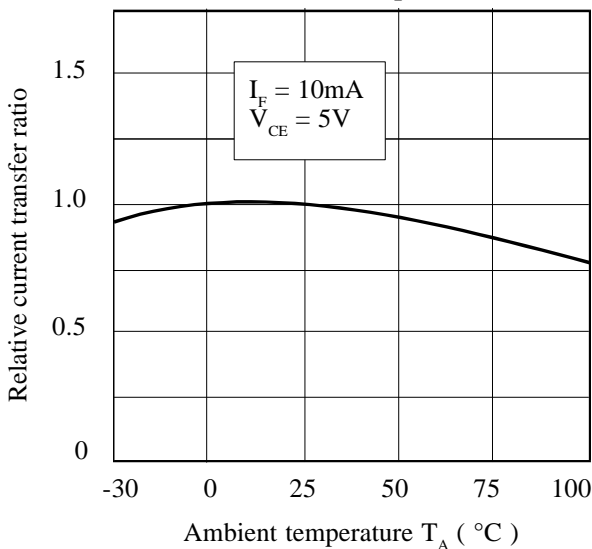
**Forward Current vs. Ambient Temperature**



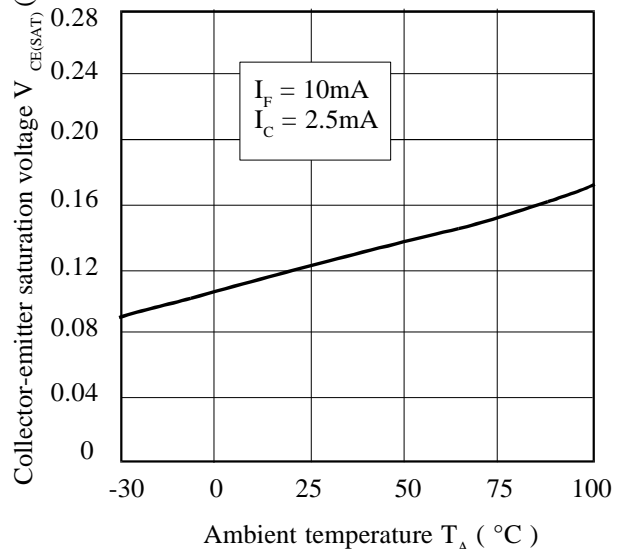
**Current Transfer Ratio vs. Forward Current (normalised to MCT2201)**



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



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



## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Photodiode Output Optocouplers](#) category:*

*Click to view products by [Isocom](#) manufacturer:*

Other Similar products are found below :

[TLP590B\(C,F\)](#) [TLP7820\(A-LF4.E\(O](#) [LTV-244-GB-G](#) [LTV2301GB-V-G](#) [EL816S1\(C\)\(TU\)](#) [EL817S1\(C\)\(TU\)-VG](#) [GX357NC](#) [PC817B](#)  
[PC817C](#) [LTV-341W-TA1-H](#) [LTV-176G](#) [LTV-1003-TP1-G](#) [LTV-247-G-RT](#) [PC817B-MS](#) [FOC-817C-F](#) [CYPS2501-1\(K\)](#)  
[CYTLP2362\(TPD2\)](#) [OR-3H7C-TP-G-\(GK\)](#) [ORPC-817MC-F](#) [ORPC-817D-C](#) [ORPC-817SB-TP-F](#) [PS2801C-4-F3-A/M](#) [PC817B](#)  
[TLP183\(YH-TPL,E\(T](#) [TLP183\(GRH-TPL,E\(T](#) [TLP183\(TPL,E\(T](#) [TLP291\(BL-TP,SE\(T](#) [TLP184\(V4GBTL,SE\(T](#) [TLP785\(BLL-TP6,F\(C](#)  
[TLP293\(GRH-TPL,E\(T](#) [TLP383\(D4GL-TR,E](#) [TLP185\(BLL-TL,SE\(T](#) [TLP2309\(TPL,E\(O](#) [TLP785\(BL-TP6,F\(C](#) [TLP185\(GRL-TL,SE\(T](#)  
[TLP785\(GR-TP6,F\(C](#) [TLP183\(BL-TPL,E\(T](#) [TLP2398\(TPL,E\(T](#) [TLP127GB-S](#) [LTV-354T-A\(UMW\)](#) [6N136S\(UMW\)](#) [PC817B-S](#) [FOC-817C](#)  
[EL1018](#) [IS121A](#) [IS2701-1A](#) [IS3H7A](#) [IS121D](#) [IS2701-1C](#) [IS121GB](#)