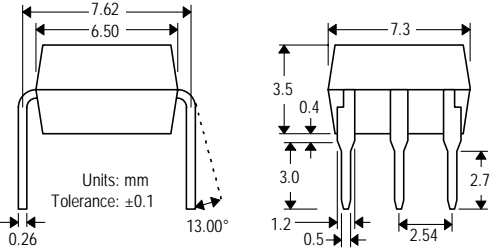
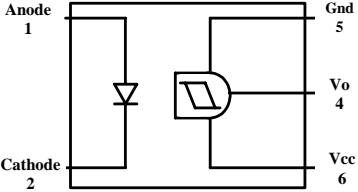


# MOC5007/8/9

## Optically Coupled Isolator, Schmitt Trigger

**ISOCOM<sup>®</sup>** LTD

PACKAGES	CIRCUIT
	<p style="text-align: center;">TOP VIEW</p> 

## DESCRIPTION

Isocom Ltd supplies a multitude of plastic optocouplers for all applications varying from standard transistor optos through to Darlington and Schmitt Trigger devices. It's massive family of optos vary in speed allowing maximum opportunity to engineers worldwide.

All devices are performance guaranteed between -20°C and +80°C and have completed rigorous testing. The Company's customers can be assured of our commitment to stringent quality, reliability and inspection standards, as demonstrated by our existing approvals. Other customer specific options can also be offered.

## FEATURES

High Data Rate, Type 1 MHz (NRZ)  
Wide Supply Voltage Capability,  
Microprocessor Compatible Drive  
Logic Compatible Output Sinks 16 mA at 0.4 V Max  
High Isolation between Input and Output

Fast Switching: Typically  $t_{rise} = t_{fall} = 100$  ns  
compatible with all popular logic systems  
High Common Mode Rejection Ratio  
Guaranteed On/Off Threshold Hysteresis

Isocom Ltd reserves the right to change the details on this specification without notice. Please consult Isocom Ltd prior to use. Isocom Ltd cannot accept liability for any errors or omissions.

For sales enquiries, or further information, please contact our sales office at:

Isocom Ltd, Hutton Close, Crowther Industrial Estate, District 3, Washington, NE38 0AH

Tel: +44 0191 4166 546 Fax: +44 0191 4155 055 Email [Isocom@isocomoptocouplers.com](mailto:Isocom@isocomoptocouplers.com)

Or go to the Isocom Website @: [Http://www.isocom.uk.com](http://www.isocom.uk.com)

## Description

The MOC5007 /2/3 are optically coupled isolators consisting of a Gallium Arsenide infrared emitting diode and a Microprocessor Compatible Schmitt Trigger mounted in a standard 6-pin dual-in-line package. Surface Mount Option Available.

All electrical parameters are 100% tested. Specifications are guaranteed to a cumulative 0.65% AQL.

## Absolute Maximum Ratings: (Ta=25°C)

Storage Temperature:	-55°C to +150°C
Operating Temperature:	-55°C to +100°C
Lead Soldering:	260°C for 10s, 1.6mm from case
Input-to-Output Isolation Voltage:	±7500V

## Input Diode

Forward DC Current:	60mA
Reverse DC Voltage:	6V
Peak Forward Current:	0.5A (1µs p.w. 300pps)
Power Dissipation:	100mW
Derate Linearly:	1.33mW/°C above 25°C

## Output Transistor

V45 Allowed Range:	0 to 16V
V65 Allowed Range:	0 to 16V
I4 Output Current:	50mA
Power Dissipation:	150mW
Derate Linearly:	2.00mW/°C above 25°C

## Package

Total Power Dissipation:	
De rate Linearly:	250mW 3.3mW/°C above 25°

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## Electro-optical Characteristics (Ta=25°C)

INPUT	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V <sub>F</sub>	Forward Voltage	I <sub>F</sub> =0.3mA	0.75			V
		I <sub>F</sub> =10mA			1.5	V
I <sub>R</sub>	Reverse Current	V <sub>R</sub> =3.0V			10	μA
V <sub>R</sub>	Reverse Breakdown Voltage	I <sub>R</sub> =10μA	3.0			V
OUTPUT	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V <sub>CC</sub>	Operating Voltage Range		3		15	V
I <sub>6 OFF</sub>	Supply Current	I <sub>F</sub> =0, V <sub>CC</sub> =5V			5.0	mA
I <sub>OH</sub>	Output Current High	I <sub>F</sub> =0, V <sub>CC</sub> =V <sub>O</sub> =15V			100	μA
COUPLED	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
I <sub>6 ON</sub>	Supply Current	I <sub>F</sub> =5mA, V <sub>CC</sub> =5V			5.0	mA
V <sub>OL</sub>	Output Voltage Low	R <sub>L</sub> =270ohm, V <sub>CC</sub> =5V			0.4	V
I <sub>F ON</sub>	Turn-On Threshold Current					
	MOC5007				1.6	mA
	MOC5008				4	mA
	MOC5009				10	mA
I <sub>F OFF</sub>	Turn-Off Threshold Current		0.3	0.9		mA
I <sub>F OFF</sub> /I <sub>F ON</sub>	Hysteresis Ratio		0.50		0.90	
t <sub>ON</sub>	Turn-on Time	R <sub>E</sub> =1200ohm		0.57		μs
t <sub>F</sub>	Fall Time	C=270pF		0.09		μs
t <sub>OFF</sub>	Turn-off Time	f<=100kHz		1.40		μs
t <sub>R</sub>	Rise Time	t <sub>p</sub> =1μs		0.05		μs

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