MOC8030, MOC8050

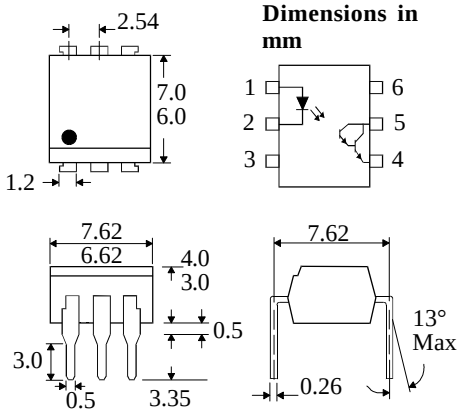
NON BASE LEAD OPTICALLY COUPLED ISOLATOR PHOTODARLINGTON OUTPUT

APPROVALS

- UL recognised, File No. E91231

DESCRIPTION

The MOC8030, MOC8050 series of optically coupled isolators consist of an infrared light emitting diode and NPN silicon photodarlington in a standard 6pin dual in line plastic package with the base pin unconnected.



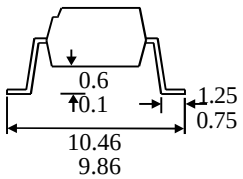
FEATURES

- 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 Current Transfer Ratio (500% min)
- High BVceo (80V)
  High Isolation Voltage ($5.3kV_{RMS}$, $7.5kV_{PK}$)
- Basepin unconnected for improved noise immunity in high EMI environment
- High sensitivity to low input drive current
- Custom electrical selections available

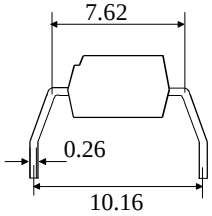
APPLICATIONS

- Computer terminals
- 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	5V
Power Dissipation	120mW

OUTPUT TRANSISTOR

Collector-emitter Voltage BV_{CEO}	80V
Emitter-collector Voltage BV_{ECO}	5V
Power Dissipation	150mW

POWER DISSIPATION

Total Power Dissipation (derate linearly 3.3mW/°C above 25°C)	250mW

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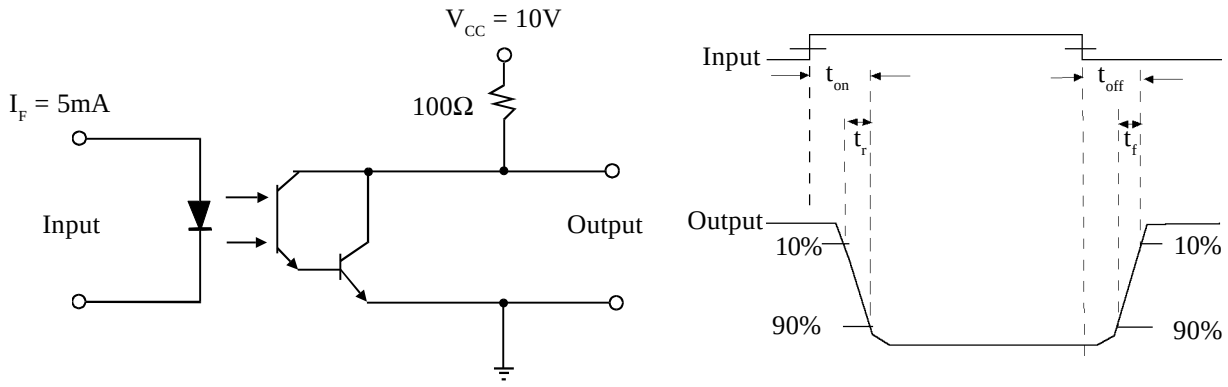
ELECTRICAL CHARACTERISTICS (T_A = 25°C Unless otherwise noted)

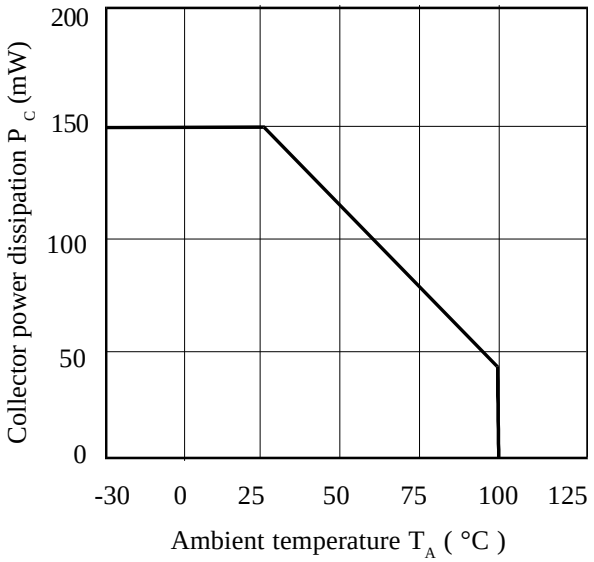
PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)		1.2	1.5	V	I_F = 10mA
	Reverse Voltage (V_R)	3			V	I_R = 10µA
	Reverse Current (I_R)			10	µA	V_R = 3V
Output	Collector-emitter Breakdown (BV_{CEO})	80			V	I_C = 1mA (note 2)
	Emitter-collector Breakdown (BV_{ECO})	5			V	I_E = 100µA
	Collector-emitter Dark Current (I_{CEO})			1	µA	V_{CE} = 60V
Coupled	Output Collector Current (I_C)(Note 2)					
	MOC8030	30			mA	10mA I_F, 1.5V V_{CE}
	MOC8050	50			mA	10mA I_F, 1.5V V_{CE}
	Input to Output Isolation Voltage V_{ISO}	5300			V_{RMS}	(note 1)
		7500			V_{PK}	(note 1)
	Input-output Isolation Resistance R_{ISO}		10^{11}		Ω	V_{IO} = 500V (note 1)
	Output Turn on Time ton		3.5		µs	V_{CC}= 10V, I_F= 5mA,
	Output Turn off Time toff		95		µs	R_L = 100Ω , fig.1
	Output Rise Time tr		1		µs	
	Output Fall Time tf		2		µs	

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.

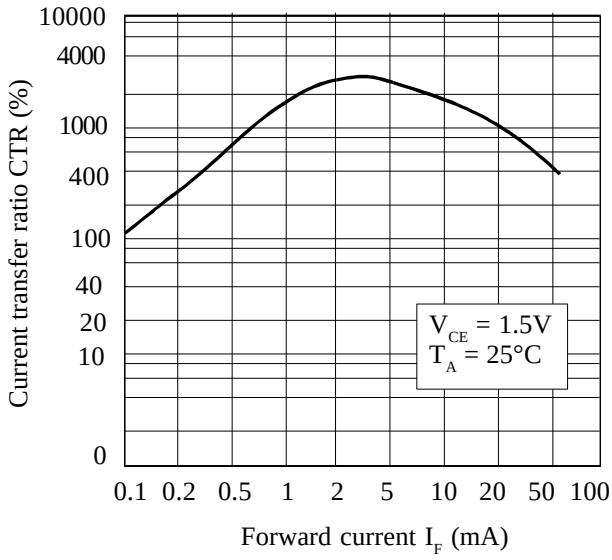
FIGURE 1



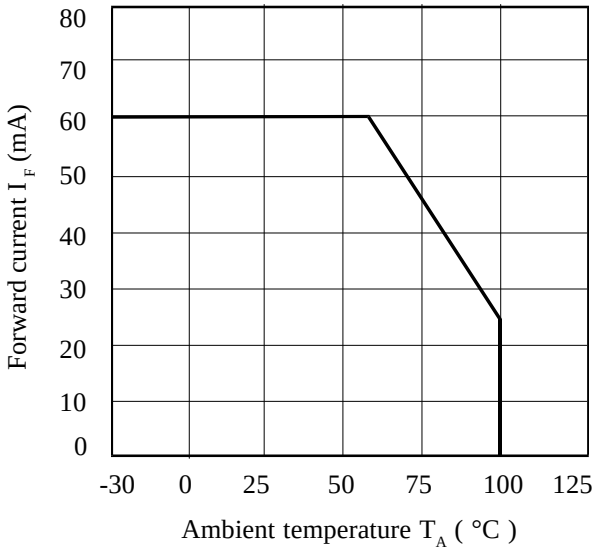
Collector Power Dissipation vs. Ambient Temperature



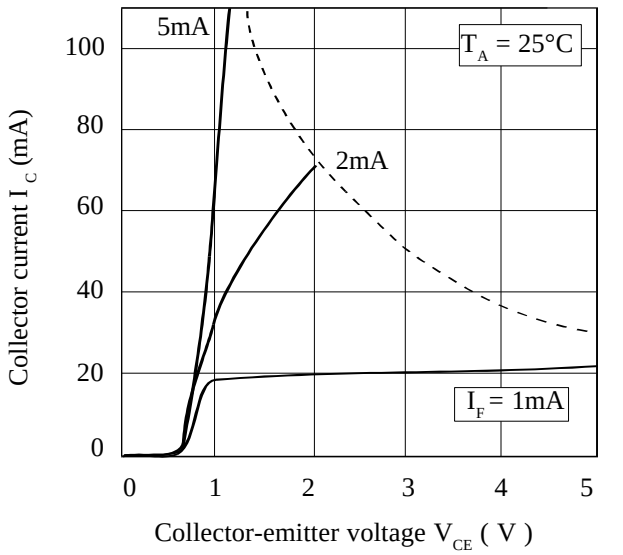
Current Transfer Ratio vs. Forward Current



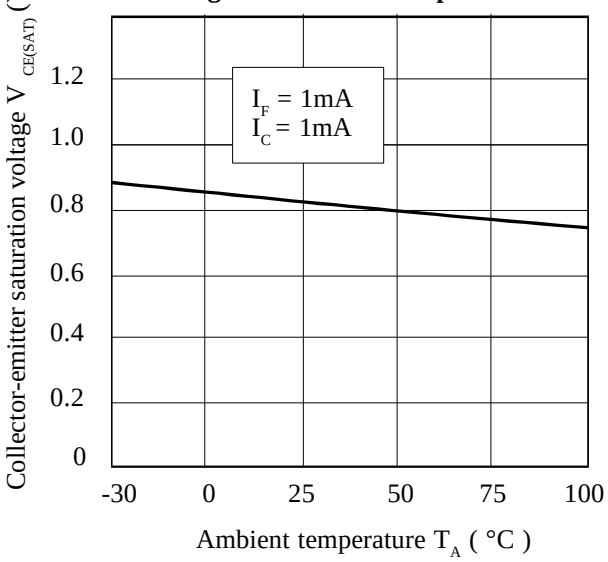
Forward Current vs. Ambient Temperature



Collector Current vs. Collector-emitter Voltage



Collector-emitter Saturation Voltage vs. Ambient Temperature



Normalized Current Transfer Ratio vs. Ambient Temperature