

TIL191, TIL192, TIL193
 TIL191A, TIL192A, TIL193A
 TIL191B, TIL192B, TIL193B



**HIGH DENSITY MOUNTING
 PHOTOTRANSISTOR
 OPTICALLY COUPLED ISOLATORS**

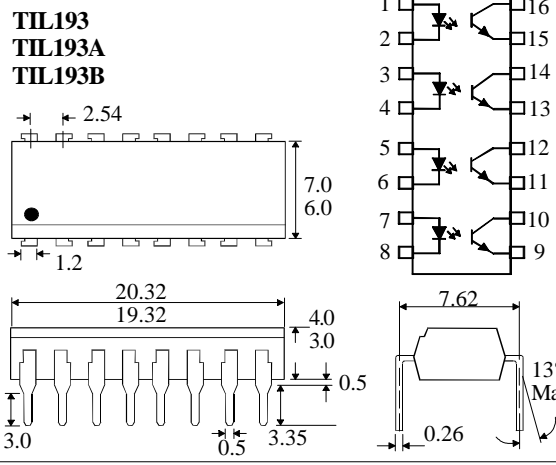
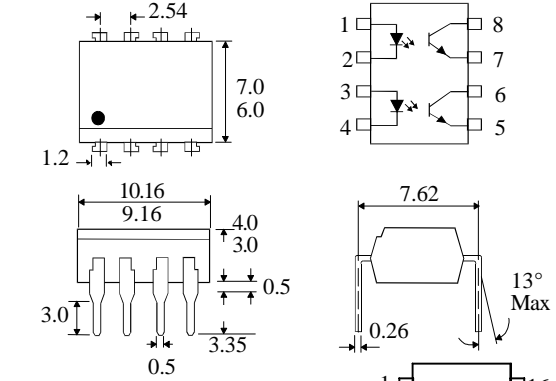
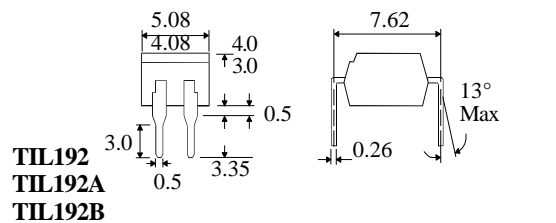
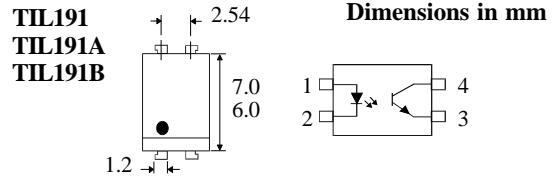
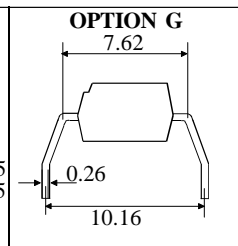
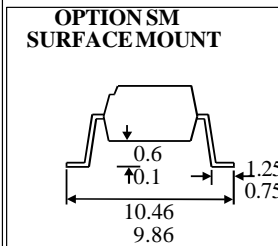
APPROVALS

- UL recognised, file no. E91231

- High Isolation Voltage ($5.3kV_{RMS}$, $7.5kV_{PK}$)
- All electrical parameters 100% tested
 - Custom electrical selections available

APPLICATIONS

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



ISOCOM COMPONENTS LTD
 Unit 25B, Park View Road West,
 Park View Industrial Estate, Brenda Road
 Hartlepool, TS25 1YD England Tel: (01429)863609
 Fax : (01429) 863581 e-mail sales@isocom.co.uk
<http://www.isocom.com>

ISOCOM INC
 1024 S. Greenville Ave, Suite 240,
 Allen, TX 75002 USA
 Tel: (214)495-0755 Fax: (214)495-0901
 e-mail info@isocom.com
<http://www.isocom.com>

ABSOLUTE MAXIMUM RATINGS
(25°C unless otherwise specified)

Storage Temperature	_____	-55°C to + 125°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	_____	50mA
Reverse Voltage	_____	5V
Power Dissipation	_____	70mW

OUTPUT TRANSISTOR

Collector-emitter Voltage BV_{CEO}	_____	35V
Emitter-collector Voltage BV_{ECO}	_____	6V
Power Dissipation	_____	150mW

POWER DISSIPATION

Total Power Dissipation	_____	200mW
(derate linearly 2.67mW/°C above 25°C)		

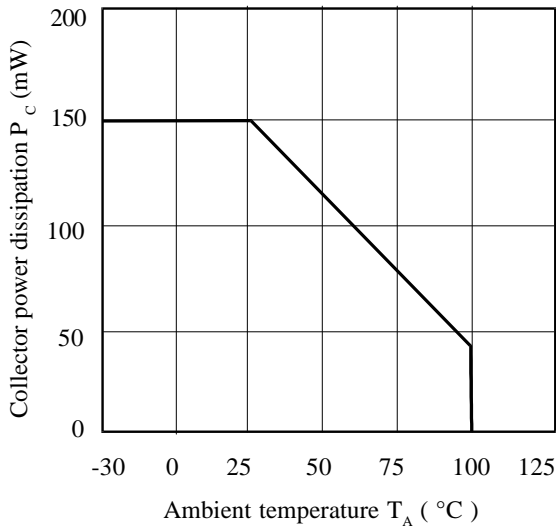
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ Unless otherwise noted)

PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)		1.2	1.4	V	$I_F = 20\text{mA}$
	Reverse Voltage (V_R)	5			V	$I_R = 10\mu\text{A}$
	Reverse Current (I_R)			10	μA	$V_R = 5\text{V}$
Output	Collector-emitter Breakdown (BV_{CEO}) (Note 2)	35			V	$I_C = 0.5\text{mA}$
	Emitter-collector Breakdown (BV_{ECO})	6			V	$I_E = 100\mu\text{A}$
	Collector-emitter Dark Current (I_{CEO})			100	nA	$V_{CE} = 24\text{V}$
Coupled	Current Transfer Ratio (CTR) (Note 2) TIL191, TIL192, TIL193	20			%	$5\text{mA } I_F, 5\text{V } V_{CE}$
	TIL191A, TIL192A, TIL193A	50			%	
	TIL191B, TIL192B, TIL193B	100			%	
	Collector-emitter Saturation Voltage $V_{CE(SAT)}$			0.4	V	$5\text{mA } I_F, 1\text{mA } I_C$
	Input to Output Isolation Voltage V_{ISO}	5300 7500			V_{RMS} V_{PK}	See note 1 See note 1
	Input-output Isolation Resistance R_{ISO}	5×10^{10}			Ω	$V_{IO} = 500\text{V}$ (note 1)
	Output Rise Time tr		6		μs	$V_{CC} = 5\text{V}$, $I_C = 2\text{mA}, R_L = 100\Omega$
Output Fall Time tf		6		μs		

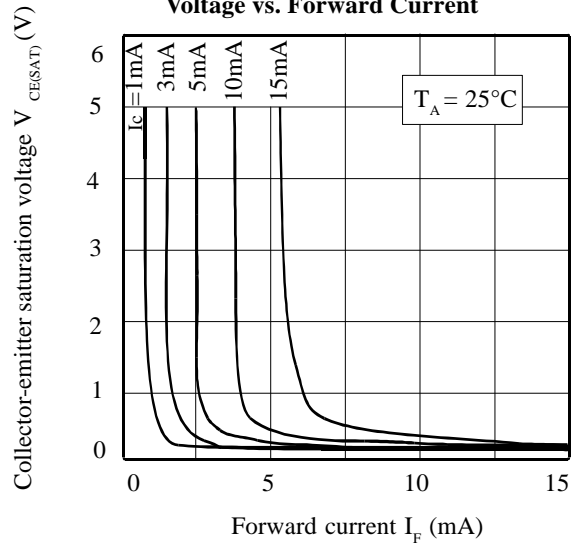
Measured with input leads shorted together and output leads shorted together.

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

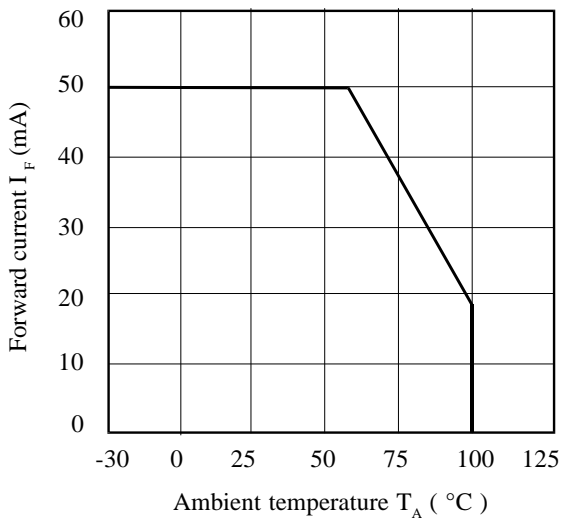
Collector Power Dissipation vs. Ambient Temperature



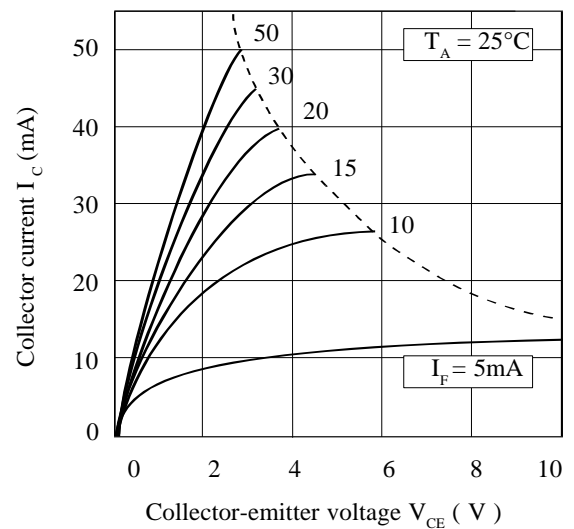
Collector-emitter Saturation Voltage vs. Forward Current



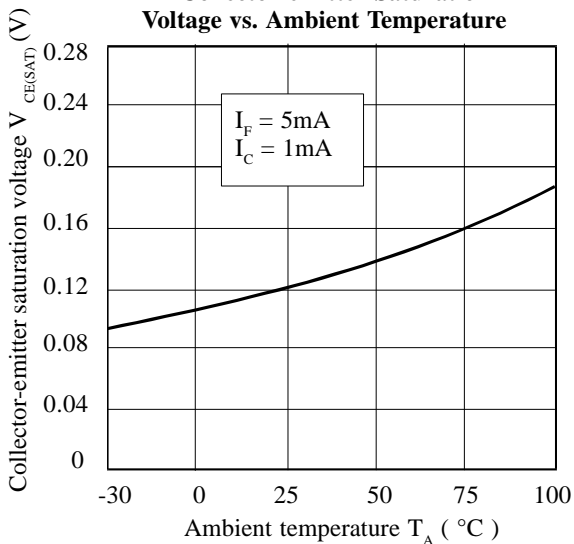
Forward Current vs. Ambient Temperature



Collector Current vs. Collector-emitter Voltage



Collector-emitter Saturation Voltage vs. Ambient Temperature



Current Transfer Ratio vs. Forward Current

