

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



**HIGH DENSITY MOUNTING
 PHOTOTRANSISTOR
 OPTICALLY COUPLED ISOLATORS**

APPROVALS

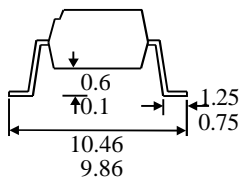
- UL recognised, file no. E91231

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

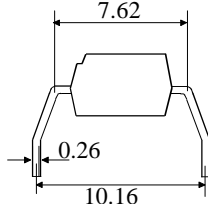
APPLICATIONS

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

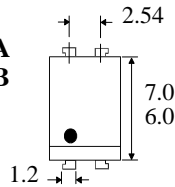
**OPTION SM
 SURFACE MOUNT**



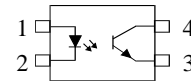
OPTION G



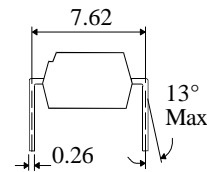
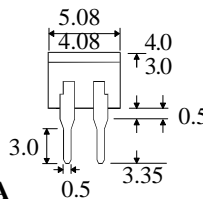
**TIL191
 TIL191A
 TIL191B**



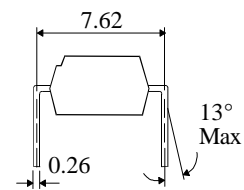
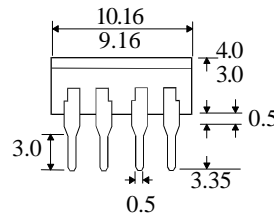
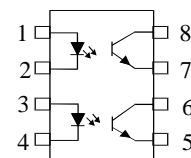
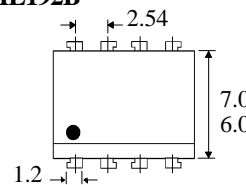
Dimensions in mm



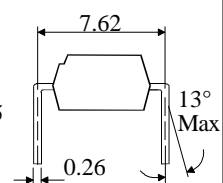
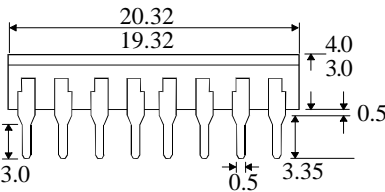
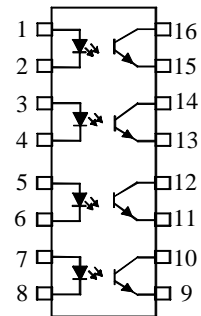
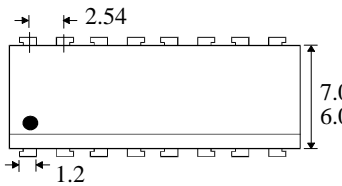
**TIL192
 TIL192A
 TIL192B**



**TIL193
 TIL193A
 TIL193B**



**TIL193
 TIL193A
 TIL193B**



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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

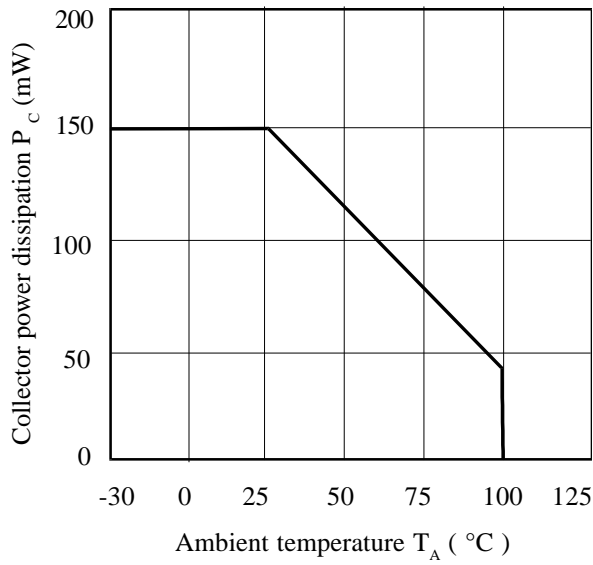
Total Power Dissipation	_____	200mW
(derate linearly 2.67mW/°C above 25°C)		

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

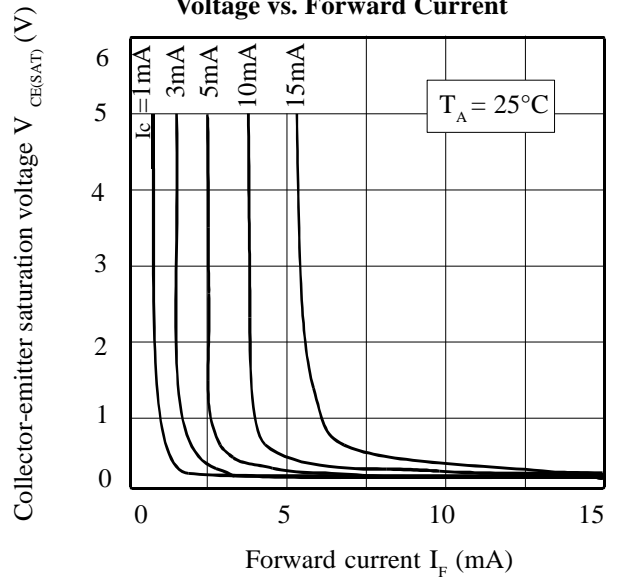
PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)		1.2	1.4	V	$I_F = 20\text{mA}$ $I_R = 10\mu\text{A}$ $V_R = 5\text{V}$
	Reverse Voltage (V_R)	5			V	
	Reverse Current (I_R)			10	μA	
Output	Collector-emitter Breakdown (BV_{CEO}) (Note 2)	35			V	$I_C = 0.5\text{mA}$ $I_E = 100\mu\text{A}$ $V_{CE} = 24\text{V}$
	Emitter-collector Breakdown (BV_{ECO})	6			V	
	Collector-emitter Dark Current (I_{CEO})			100	nA	
Coupled	Current Transfer Ratio (CTR) (Note 2)					$5\text{mA } I_F, 5\text{V } V_{CE}$
	TIL191, TIL192, TIL193	20			%	
	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}
	Input-output Isolation Resistance R_{ISO}	5×10^{10}				Ω
Output Rise Time tr		6			μs	
Output Fall Time tf		6			μs	

Note 2 Measured with input leads shorted together and output leads shorted together.
Special Selections are available on request. Please consult the factory.

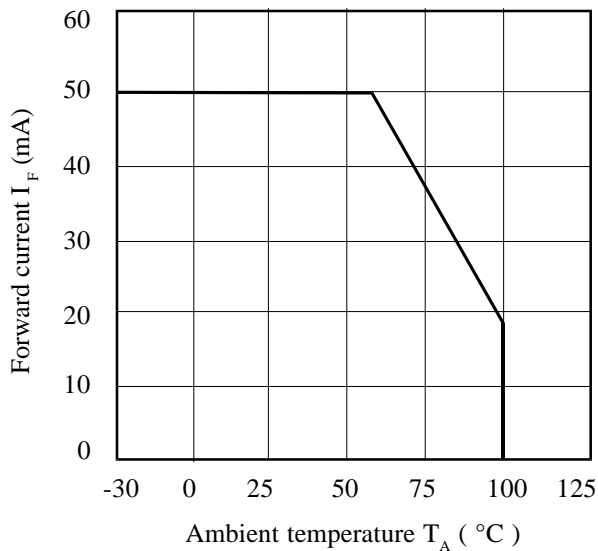
Collector Power Dissipation vs. Ambient Temperature



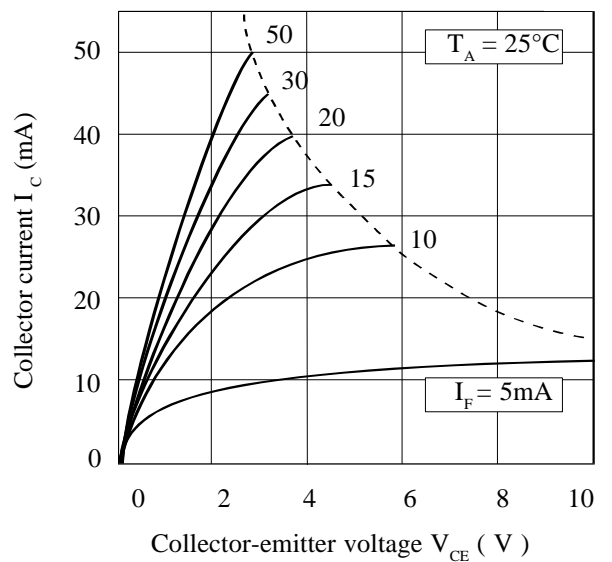
Collector-emitter Saturation Voltage vs. Forward Current



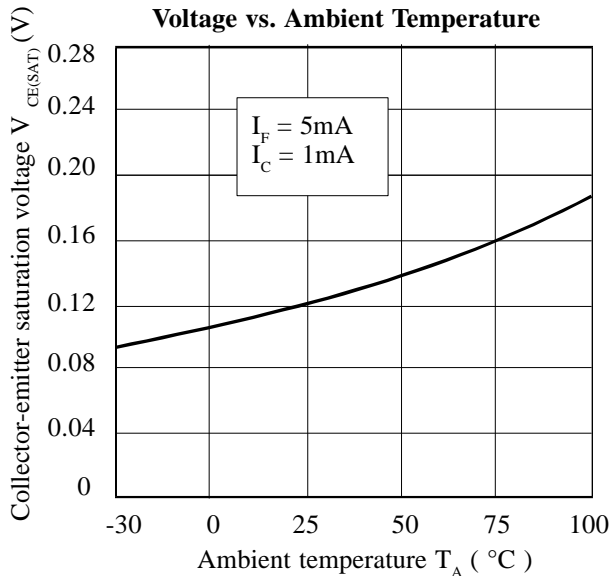
Forward Current vs. Ambient Temperature



Collector Current vs. Collector-emitter Voltage



Collector-emitter Saturation Voltage vs. Ambient Temperature



Current Transfer Ratio vs. Forward Current

