

TIL119
TIL119X



ISOCOM
COMPONENTS

**NON BASE LEAD
OPTICALLY COUPLED ISOLATOR
PHOTODARLINGTON OUTPUT**



APPROVALS

- UL recognised, File No. E91231
Package Code " SS "

'X' SPECIFICATION APPROVALS

- VDE 0884 in 3 available lead form :-
- STD
 - G form
 - SMD approved to CECC 00802

DESCRIPTION

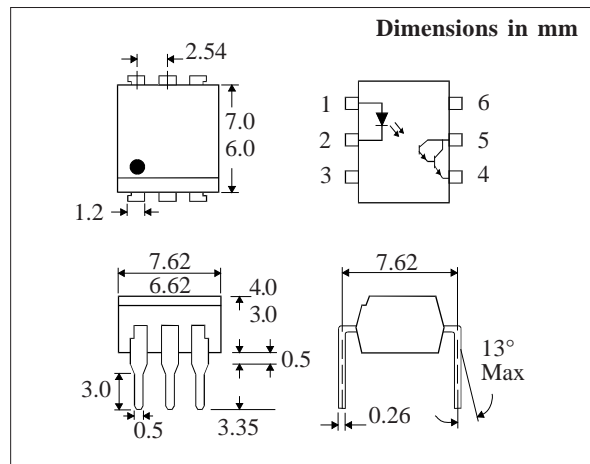
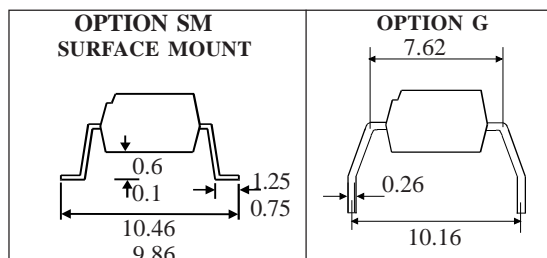
The TIL119 is an optically coupled isolator consisting of an infrared light emitting diode and NPN silicon photodarlington in a standard 6pin dual in line plastic package with the base pin unconnected.

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
- 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



**ABSOLUTE MAXIMUM RATINGS
(25°C unless otherwise specified)**

Storage Temperature _____ -40°C to +125°C
Operating Temperature _____ -25°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 _____ 6V
Power Dissipation _____ 70mW

OUTPUT TRANSISTOR

Collector-emitter Voltage BV_{CEO} _____ 30V
Emitter-collector Voltage BV_{ECO} _____ 6V
Collector Current _____ 80mA
Power Dissipation _____ 150mW

POWER DISSIPATION

Total Power Dissipation _____ 170mW
(derate linearly 3.3mW/°C above 25°C)

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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	$I_F = 10\text{mA}$
	Reverse Current (I_R)			10	μA	$V_R = 4\text{V}$
Output	Collector-emitter Breakdown (BV_{CEO})	30			V	$I_C = 1\text{mA}$ (note 2)
	Emitter-collector Breakdown (BV_{ECO})	6			V	$I_E = 10\mu\text{A}$
	Collector-emitter Dark Current (I_{CEO})			1	μA	$V_{CE} = 10\text{V}$
Coupled	Output Collector Current (I_C)(Note 2)	30			mA	$10\text{mA } I_F, 1\text{V } V_{CE}$
	Collector-emitter Saturation Voltage $V_{CE(SAT)}$			1.0	V	$10\text{mA } I_F, 30\text{mA } I_C$
	Input to Output Isolation Voltage V_{ISO}	5300 7500			V_{RMS} V_{PK}	(note 1) (note 1)
	Input-output Isolation Resistance R_{ISO}	5×10^{10}			Ω	$V_{IO} = 500\text{V}$ (note 1)
	Output Rise Time, t_r Output Fall Time, t_f		60 53	250 250	μs μs	$V_{CE} = 2\text{V}, I_C = 10\text{mA},$ $R_L = 100\Omega$, fig.1

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

