



HIGH DENSITY MOUNTING PHOTODARLINGTON OPTICALLY COUPLED ISOLATORS

APPROVALS

- UL recognised, File No. E91231

'X' SPECIFICATION APPROVALS

- VDE 0884 approval pending
- Certified to EN60950 by the following Test Bodies :-
Nemko - Certificate No. P96102022
Fimko - Registration No. 192313-01..25
Semko - Reference No. 9639052 01
Demko - Reference No. 305969

DESCRIPTION

The PS2502-1, PS2502-2, PS2502-4 series of optically coupled isolators consist of infrared light emitting diodes and NPN silicon photodarlington transistors in space efficient dual in line plastic packages.

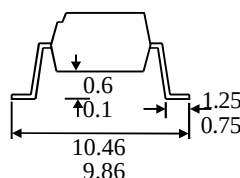
FEATURES

- 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 (200%min)
- High Isolation Voltage ($5.3\text{kV}_{\text{RMS}}$, 7.5kV_{PK})
- All electrical parameters 100% tested
- Custom electrical selections available

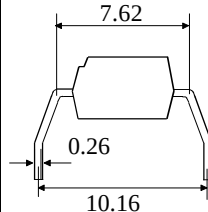
APPLICATIONS

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

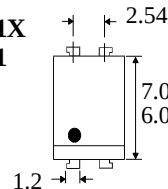
OPTION SM SURFACE MOUNT



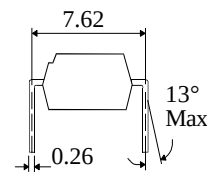
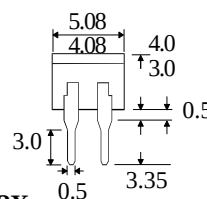
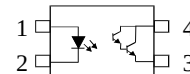
OPTION G



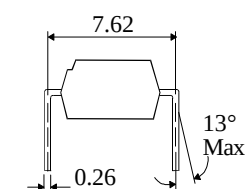
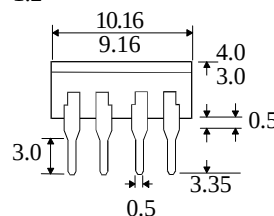
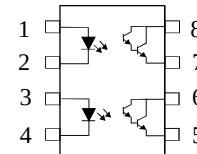
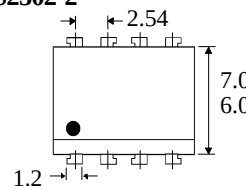
PS2502-1X PS2502-1



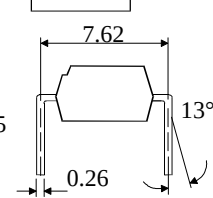
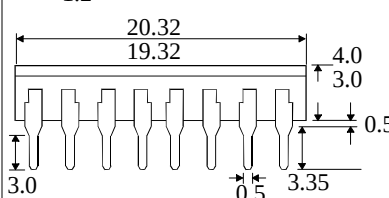
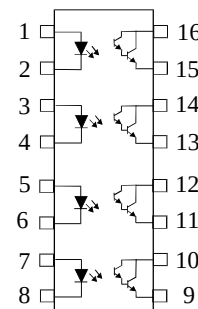
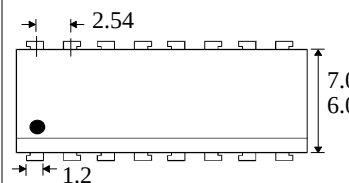
Dimensions in mm



PS2502-2X PS2502-2



PS2502-4X PS2502-4



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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 _____ 6V
Power Dissipation _____ 70mW

OUTPUT TRANSISTOR

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

POWER DISSIPATION

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

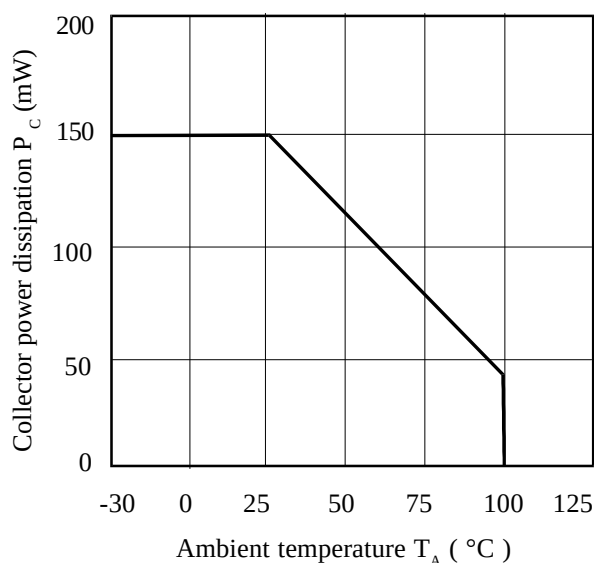
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ Unless otherwise noted)

PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V _F)	5	1.2	1.4	V	I _F = 10mA
	Reverse Voltage (V _R)			V	I _R = 5μA	
	Reverse Current (I _R)			μA	V _R = 5V	
Output	Collector-emitter Breakdown (BV _{CEO}) (Note 2)	80			V	I _C = 1mA
	Emitter-collector Breakdown (BV _{ECO})	6			V	I _E = 100μA
Coupled	Current Transfer Ratio (CTR) (Note 2)	200	2000		%	1mA I _F , 1V V _{CE}
	Collector-emitter Saturation VoltageV _{CE (SAT)}			1.0	V	1mA I _F , 2mA 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}	5x10 ¹⁰			Ω	V _{IO} = 500V (note 1)
	Output Rise Time tr Output Fall Time tf		100 100		μs μs	V _{CC} = 10V , I _C = 10mA, R _L = 100Ω

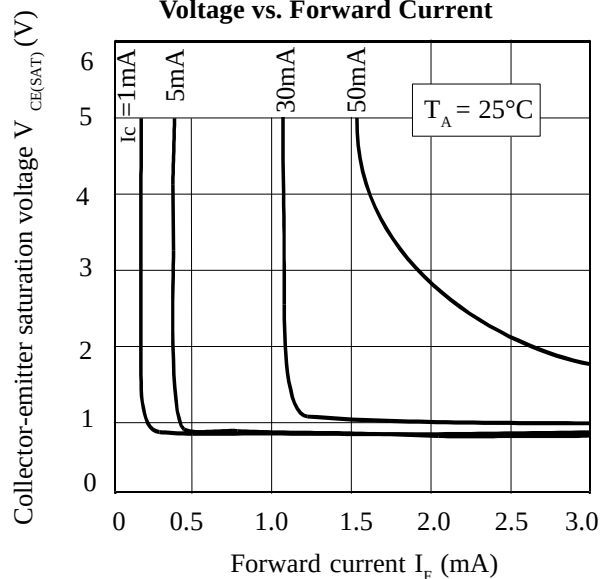
Note 1 Measured with input leads shorted together and output leads shorted together.

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

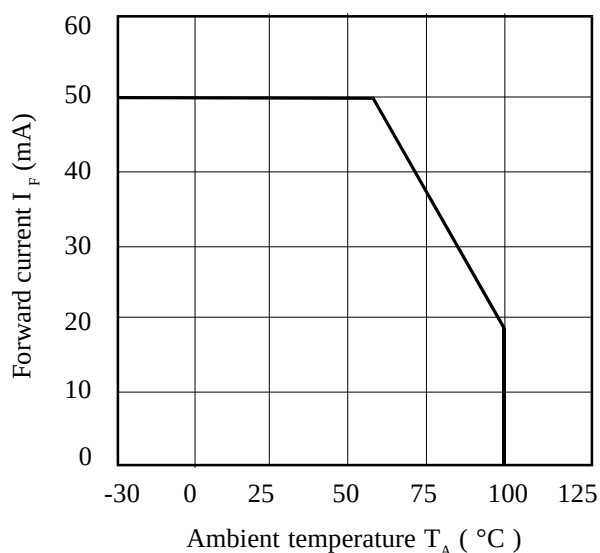
Collector Power Dissipation vs. Ambient Temperature



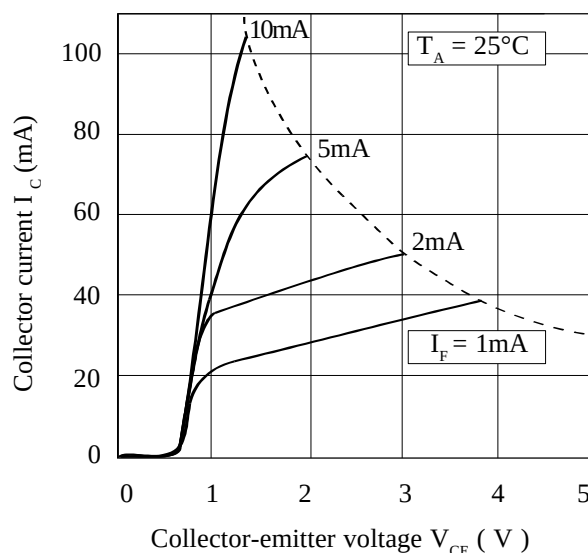
Collector-emitter Saturation Voltage vs. Forward Current



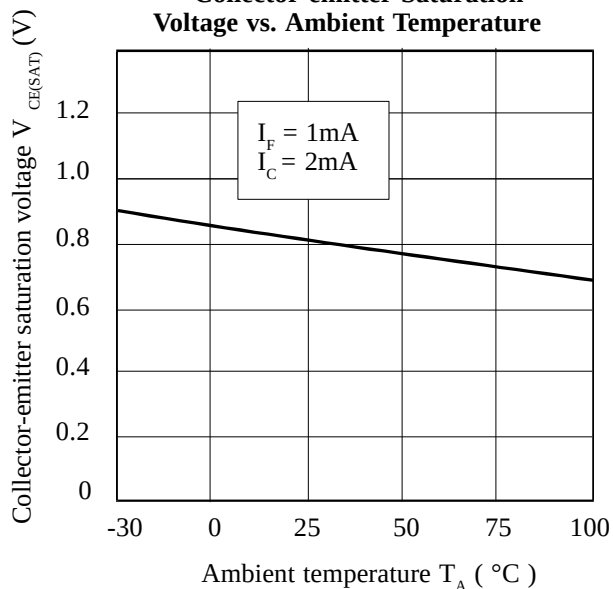
Forward Current vs. Ambient Temperature



Collector Current vs. Collector-emitter Voltage



Collector-emitter Saturation Voltage vs. Ambient Temperature



Relative Current Transfer Ratio vs. Ambient Temperature

