

LOW INPUT CURRENT A.C. INPUT PHOTOTRANSISTOR OPTICALLY COUPLED ISOLATORS

APPROVALS

- UL recognised, File No. E91231

'X' SPECIFICATION APPROVALS

- VDE 0884 approval pending
- ISP626-1X - 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
ISP626-2X, ISP626-4X - EN60950 pending

DESCRIPTION

The ISP626-1, ISP626-2, ISP626-4 series of optically coupled isolators consist of two infrared light emitting diodes connected in inverse parallel and NPN silicon photo transistors in space efficient dual in line plastic packages.

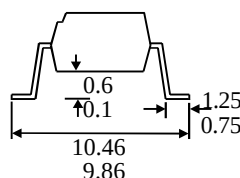
FEATURES

- Options :-
10mm lead spread - add G after part no.
Surface mount - add SM after part no.
Tape&reel - add SMT&R after part no.
- Low input current $\pm 0.5\text{mA } I_F$
- High Isolation Voltage ($5.3\text{kV}_{\text{RMS}}, 7.5\text{kV}_{\text{PK}}$)
- AC or polarity insensitive input
- All electrical parameters 100% tested
- Custom electrical selections available

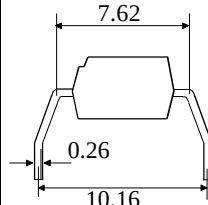
APPLICATIONS

- Computer terminals
- Industrial systems controllers
- Telephone sets, Telephone exchangers
- Signal transmission between systems of different potentials and impedances

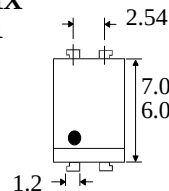
OPTION SM SURFACE MOUNT



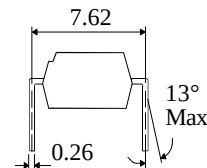
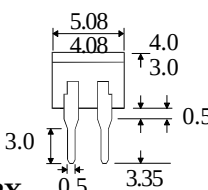
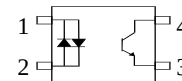
OPTION G



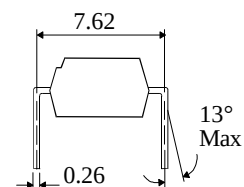
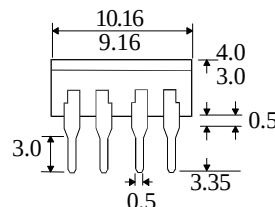
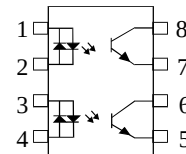
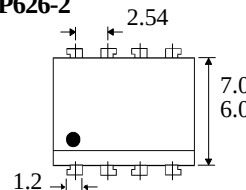
ISP626-1X ISP626-1



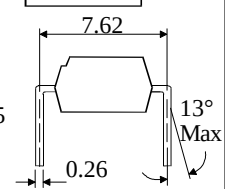
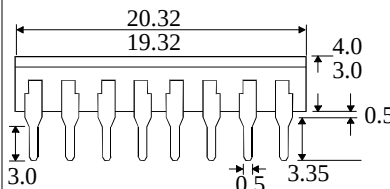
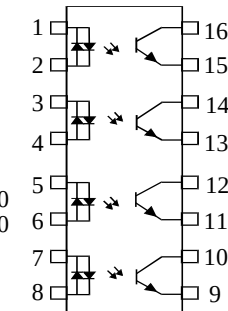
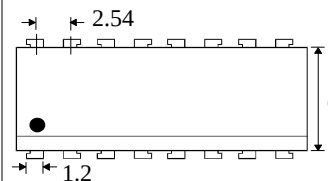
Dimensions in mm



ISP626-2X ISP626-2



ISP626-4X ISP626-4



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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
Power Dissipation ——— 70mW

OUTPUT TRANSISTOR

Collector-emitter Voltage BV_{CEO} — 55V
Emitter-collector Voltage BV_{ECO} — 6V
Power Dissipation ——— 150mW

POWER DISSIPATION

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

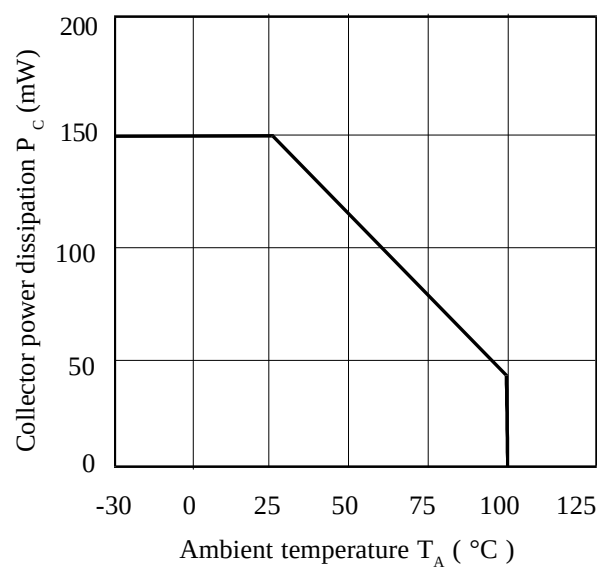
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ Unless otherwise noted)

PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)	1.0	1.15	1.3	V	$I_F = \pm 10\text{mA}$
Output	Collector-emitter Breakdown (BV_{CEO}) (Note 2)	55			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)	100		1200	%	$\pm 1\text{mA} I_F, 0.5\text{V } V_{CE}$
	Low Input CTR	50			%	$\pm 0.5\text{mA} I_F, 1.5\text{V } V_{CE}$
	Collector-emitter Saturation Voltage $V_{CE(SAT)}$		0.2	0.4	V	$\pm 1\text{mA} I_F, 0.5\text{mA} I_C$
					V	$\pm 1\text{mA} I_F, 1\text{mA} I_C$
	Input to Output Isolation Voltage V_{ISO}	5300			V_{RMS}	See note 1
		7500			V_{PK}	See note 1
	Input-output Isolation Resistance R_{ISO}	5×10^{10}			Ω	$V_{IO} = 500\text{V}$ (note 1)
	Rise Time tr		8		μs	$V_{CC} = 10\text{V},$ $I_C = 2\text{mA}, R_L = 100\Omega$
	Fall Time tf		8		μs	
	Turn-on Time ton		10		μs	
	Turn-off Time toff		8		μs	

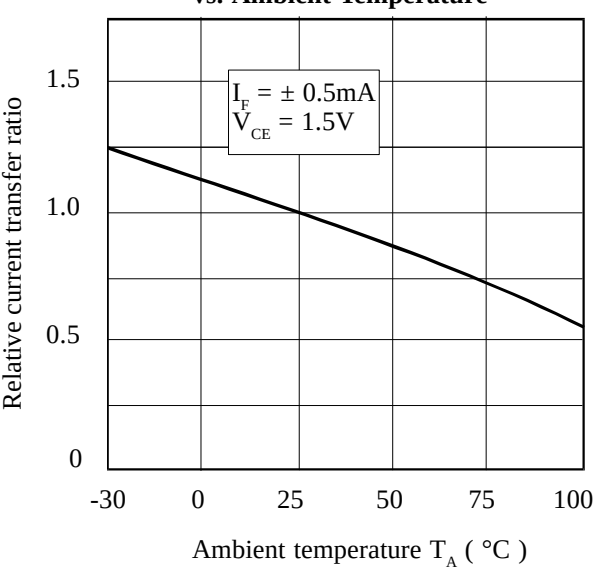
Note 1 Measured with input leads shorted together and output leads shorted together.

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

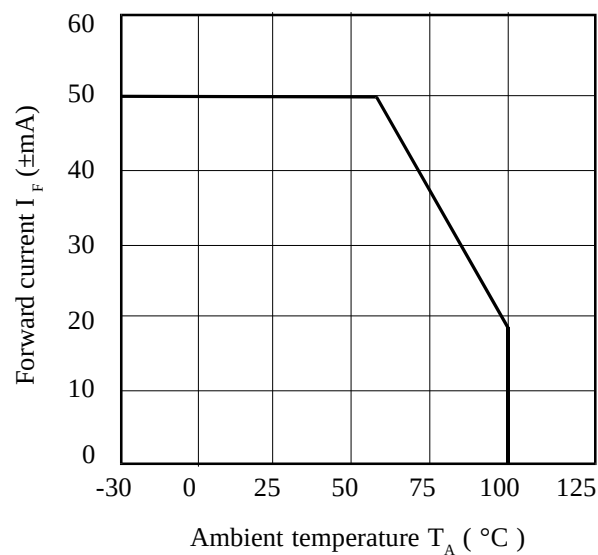
Collector Power Dissipation vs. Ambient Temperature



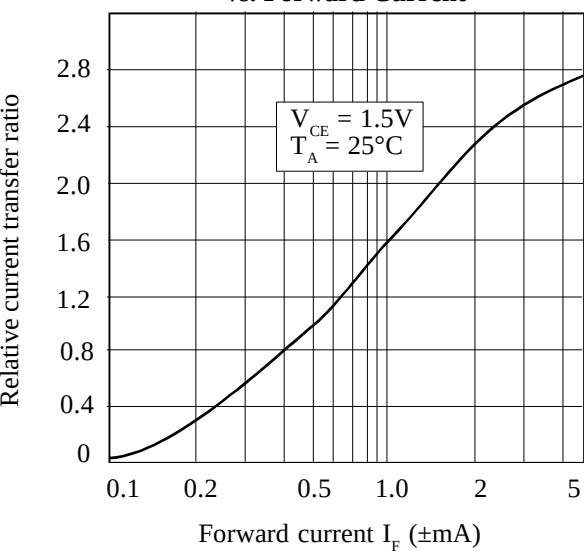
Relative Current Transfer Ratio vs. Ambient Temperature



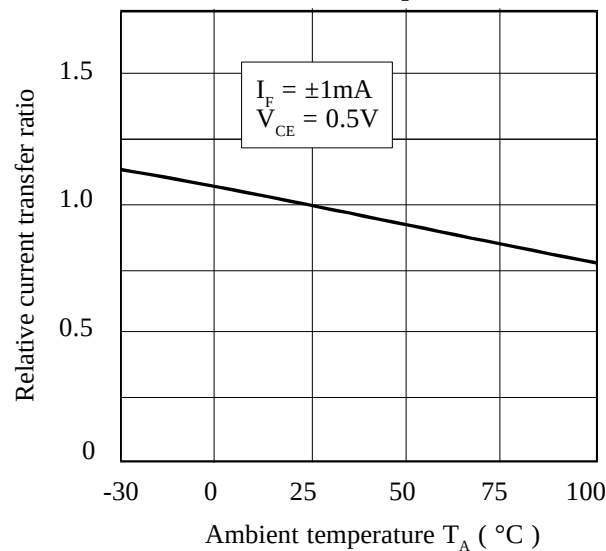
Forward Current vs. Ambient Temperature



Relative Current Transfer Ratio vs. Forward Current



Relative Current Transfer Ratio vs. Ambient Temperature



Relative Current Transfer Ratio vs. Forward Current

