

**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**

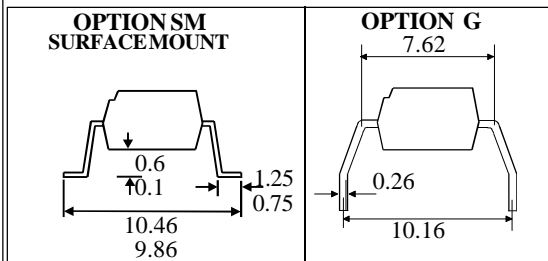
The ISP626-1, ISP626-2, ISP626-4 series of optically coupled isolators consist of two infrared light emitting diodes connected in inverse parallel and NPN silicon photo transistors in space efficient dual in line plastic packages.

**FEATURES**

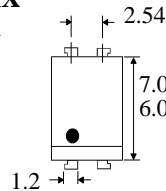
- Options :-  
10mm lead spread - add G after part no.  
Surface mount - add SM after part no.  
Tape&reel - add SMT&R after part no.
- Low input current  $\pm 0.5\text{mA } I_F$
- High Isolation Voltage ( $5.3\text{kV}_{\text{RMS}}, 7.5\text{kV}_{\text{PK}}$ )
- AC or polarity insensitive input
- All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

**APPLICATIONS**

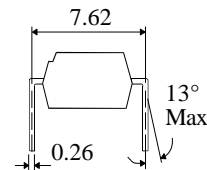
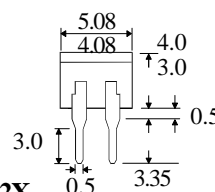
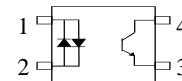
- Computer terminals
- Industrial systems controllers
- Telephone sets, Telephone exchangers
- Signal transmission between systems of different potentials and impedances



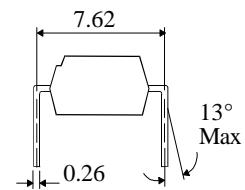
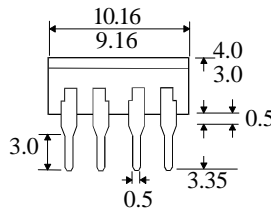
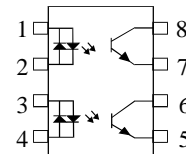
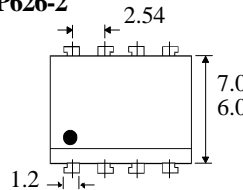
**ISP626-1X  
ISP626-1**



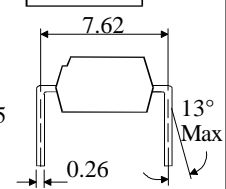
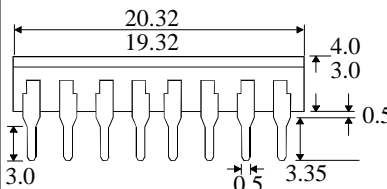
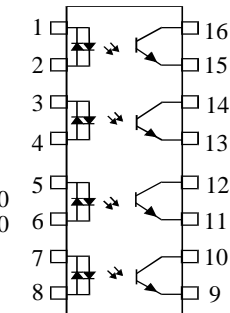
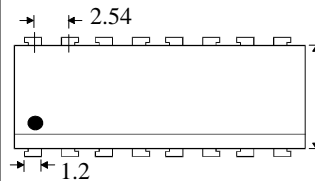
**Dimensions in mm**



**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)		

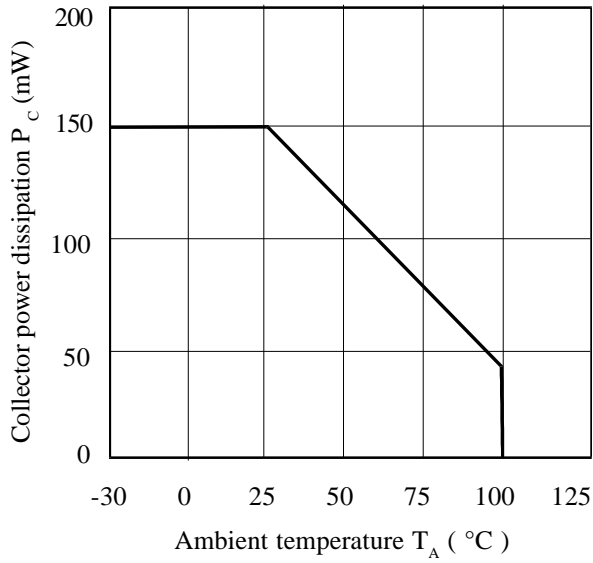
### ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ Unless otherwise noted )

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 7500			$V_{RMS}$ $V_{PK}$	See note 1 See note 1
Input-output Isolation Resistance $R_{ISO}$	$5 \times 10^{10}$			$\Omega$	$V_{IO} = 500\text{V}$ (note 1)	
Rise Time	tr		8		$\mu\text{s}$	$V_{CC} = 10\text{V},$ $I_C = 2\text{mA}, R_L = 100\Omega$
Fall Time	tf		8		$\mu\text{s}$	
Turn-on Time	ton		10		$\mu\text{s}$	
Turn-off Time	toff		8		$\mu\text{s}$	

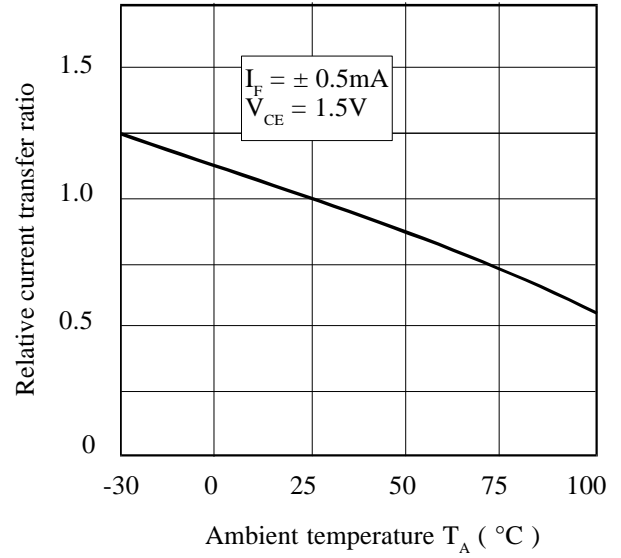
Note 1 Measured with input leads shorted together and output leads shorted together.

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

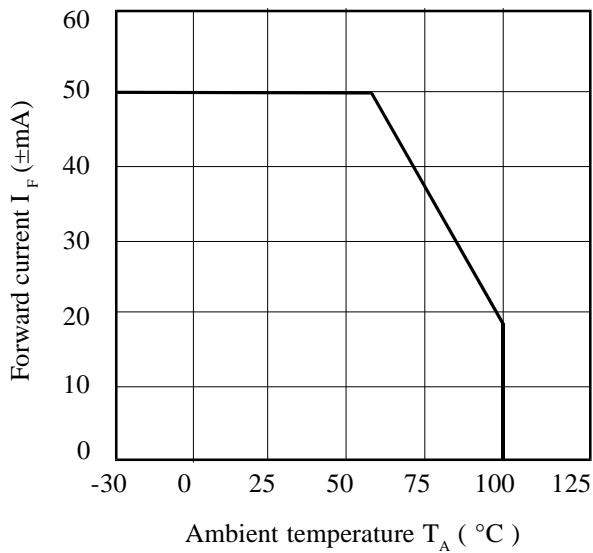
**Collector Power Dissipation vs. Ambient Temperature**



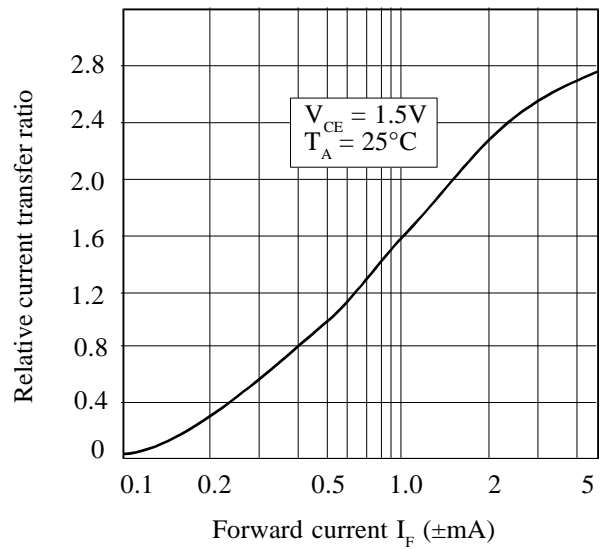
**Relative Current Transfer Ratio vs. Ambient Temperature**



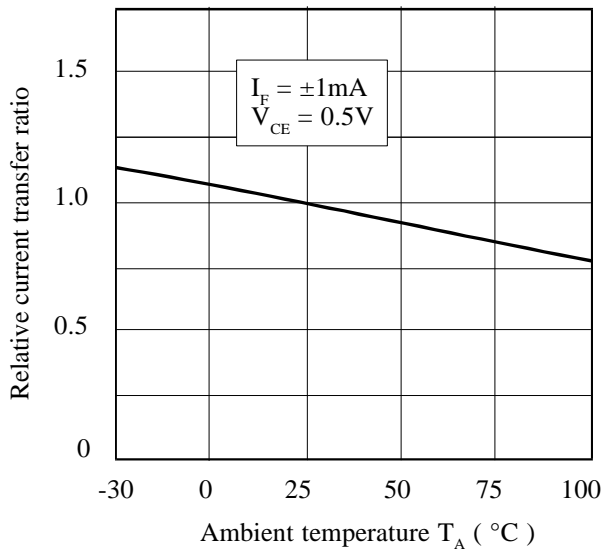
**Forward Current vs. Ambient Temperature**



**Relative Current Transfer Ratio vs. Forward Current**



**Relative Current Transfer Ratio vs. Ambient Temperature**



**Relative Current Transfer Ratio vs. Forward Current**

