ISP627

HIGH VOLTAGE DARLINGTON OUTPUT OPTICALLY COUPLED ISOLATOR

ROHS COMPLIANT

APPROVALS

- UL recognised, File No. E91231

DESCRIPTION

The ISP627 is an optically coupled isolator consisting of infrared light emitting diode and a high voltage NPN silicon photo darlington which has an integral base-emitter resistor to optimise switching speed and elevated temperature characteristics in a standard 4 pin dual in line plastic package.

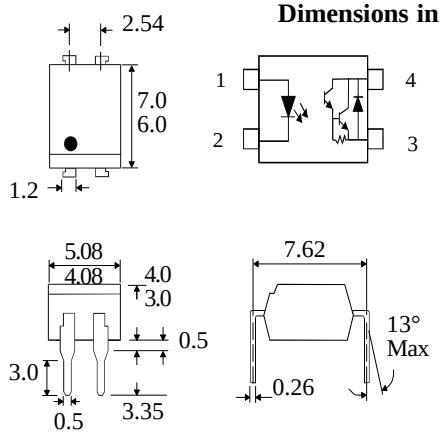
FEATURES

- 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 Isolation Voltage ($5.3kV_{RMS}$,$7.5kV_{PK}$)
- High Current Transfer Ratio (1000% min)
- High BV_{CEO} (300V min.)
- Low input current 1mA I_F

APPLICATIONS

- Modems
- Copiers, facsimiles
- Numerical control machines
- Signal transmission between systems of different potentials and impedances

Dimensions in mm



ABSOLUTE MAXIMUM RATINGS (25°C unless otherwise specified)

Storage Temperature	-55°C to +125°C
Operating Temperature	-30°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

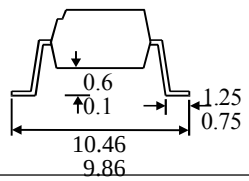
OUTPUT TRANSISTOR

Collector-emitter Voltage BV_{CEO}	300V
Collector Current I_C	150mA
Power Dissipation	150mW

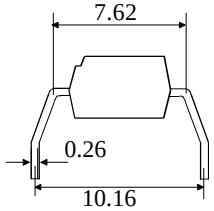
POWER DISSIPATION

Total Power Dissipation	200mW

OPTION SM
SURFACE MOUNT



OPTION G



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ELECTRICAL CHARACTERISTICS (T_A= 25°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 = 10mA
	Reverse Voltage (V_R)	5			V	I_R = 10µA
	Reverse Current (I_R)			10	µA	V_R = 5V
Output	Collector-emitter Breakdown (BV_{CEO})	300			V	I_C = 0.1mA
	Emitter-collector Breakdown (BV_{ECO})	0.3			V	I_E = 0.1mA
	Collector-emitter Dark Current (I_{CEO})		10	200	nA	V_{CE} = 200V
Coupled	Current Transfer Ratio (CTR)	1000	4000		%	1mA I_F, 1V V_{CE}
	Saturated CTR (CTR_{SAT})	500			%	10mA I_F, 1V V_{CE}
	Collector-emitter Saturation Voltage $V_{CE(SAT)}$			1.2	V	10mA I_F, 100mA I_C
	Collector-emitter Saturation Voltage $V_{CE(SAT)}$			1.0	V	1mA I_F, 10mA 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}	$5x10^{10}$			Ω	V_{IO} = 500V (note 1)
	Input-output Capacitance Cf			1	pF	V = 0, f = 1MHz
	Output Rise Time tr		40		µs	V_{CC} = 10V, I_C = 10mA,
	Output Fall Time tf		15		µs	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.

FIGURE 1

