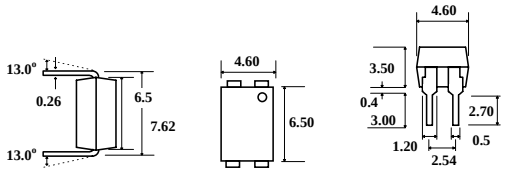
ISP815
DARLINGTON TRANSISTOR OPTOCOUPLERS

PACKAGES	CIRCUIT
	

DESCRIPTION

The ISP815 is an optically coupled isolator. It consists of a Gallium Arsenide infrared emitting diode and a NPN silicon photo-darlington transistor mounted in a standard 4 pin dual-in-line package

Isocom Ltd supplies a multitude of plastic optocouplers for all applications varying from standard transistor optos through to Darlington and Schmitt Trigger devices. It's massive family of optos vary in speed allowing maximum opportunity to engineers worldwide.

All devices are performance guaranteed between -20ºC and +80ºC and have completed rigorous testing. The Company's customers can be assured of our commitment to stringent quality, reliability and inspection standards, as demonstrated by our existing approvals. Other customer specific options can also be offered.

FEATURES

- High DC Current transfer ratio (min 600% @I_F= 1mA, V_{CE}= 2V)
- Photo-Darlington Output
- 5000V Isolation
- Compact dual-in-line package
- UL recognized, file No. E64380 TUV approved No R40001

For sales enquiries, or further information, please contact our sales office at:
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Or go to the Isocom Website @: Http://www.isocom.uk.com

ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-55°C to +125°C
Operating Temperature	-30°C to +100°C
Lead Soldering Temperature	260°C 1.6mm from case for 10S
Input-to-Output Isolation Voltage	5000V

Input Diode

Forward DC Current	50mA	
Peak forward Current	1.0A	100µS Duty ratio = 0.001
Reverse DC Voltage	6V	
Power Dissipation	70mW	

Output Transistor

Collector-Emitter Voltage	35V	BV_{CEO}
Emitter-collector voltage	6V	BV_{ECO}
Collector Current	80mA	I_C
Collector power Dissipation	150mW	P_C

Package

Total Power Dissipation	200mW	

ELECTRICAL CHARACTERISTICS

T_A = 25°C U.O.S. (each channel where appropriate).

Input Diode Electrical Characteristics

Parameter	Symbol	Test Conditions	Device	Min	Typ	Max	Units
Forward Voltage	V_F	I_F = 20mA			1.2	1.4	V
Peak Forward Voltage	V_{FM}	I_{FM}= 0.5A				3.0	V
Reverse Current	I_R	V_R= 4.0V				10	µA
Terminal Capacitance	C_t	V= 0, f= 1Khz			30	250	pF
Output Detector Electrical Characteristics							
Collector-emitter Dark Current	I_{CEO}	V_{CE}= 10V, I_F= 0				10^{-6}	A
Coupled Electrical Characteristics							
Current Transfer Ratio	CTR	I_F= 1mA, V_{CE}= 2V		600	1600	7500	%
Collector-Emitter Saturation Voltage	$V_{CE(Sat)}$	I_F= 20mA, I_C= 5mA			0.8	1.0	V
Isolation Resistance	R_{ISO}	DC500V, RH= 40 to 60%		$5*10^{10}$	10^{11}		Ω
Floating Capacitance	C_f	V= 0, f= 1Mhz			0.6	1.0	pF
Cut-off Frequency	f_c	V_{CE}= 2V, I_C= 2mA, R_L= 100Ω		1	6		Khz
Responce Time(Rise)	t_r	V_{CE}= 2V, I_C= 10mA, R_L= 100Ω			60	300	µS
Responce Time(Fall)	t_f				53	250	µS
Input-to-Output Isolation Voltage				5000			Vdc

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