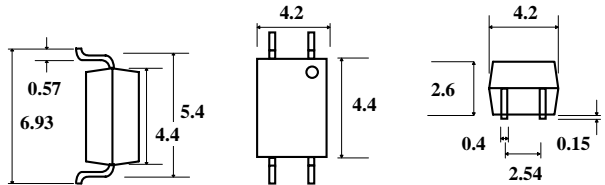



# IS452

# ISOCOM<sup>®</sup> LTD

## DARLINGTON HIGH VOLTAGE MINI FLAT PACK OPTOCOUPLEDERS

PACKAGES	CIRCUIT
	

## DESCRIPTION

The IS452 is a single channel device suitable for use in power distribution boards, facsimiles and copiers. The device incorporates an infra red LED and a High collector emitter voltage Darlington phototransistor detector in a 4 pin mini flat 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 -20°C and +80°C 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

- 3750V Isolation
- High Current Transfer Ratio (CTR min 1000% @ $I_F=1\text{mA}$ ,  $V_{CE}=2\text{V}$ )
- High Collector-Emitter Voltage ( $V_{CEO}=300\text{V}$ )

Isocom Ltd reserves the right to change the details on this specification without notice. Please consult Isocom Ltd prior to use.

Isocom Ltd cannot accept liability for any errors or omissions.

For sales enquiries, or further information, please contact our sales office at:

Isocom Ltd, Hutton Close, Crowther Industrial Estate, District 3, Washington, NE38 0AH

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Or go to the Isocom Website @: [Http://www.isocom.uk.com](http://www.isocom.uk.com)

## ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-40°C to +125°C
Operating Temperature	-30°C to +100°C
Input-to-Output Isolation Voltage	3750VDC

### Input Diode

Forward DC Current	50mA	
Peak forward Current	1.0A	
Reverse Voltage	6.0V	
Power Dissipation	70mW	

### Output Transistor

Collector-Emitter Voltage	300V	$BV_{CEO}$
Emitter-Collector voltage	0.1V	$BV_{ECO}$
Collector-Current	150mA	$I_C$
CollectorPower Dissipation	150mW	$P_C$

### Package

Total Power Dissipation	170mW	$P_{tot}$
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## ELECTRICAL CHARACTERISTICS

$T_A = 25^\circ\text{C}$  U.O.S. (each channel where appropriate).

### Input Diode Electrical Characteristics

Parameter	Symbol	Test Conditions	Device	Min	Typ	Max	Units
Forward Voltage	$V_F$	$I_F = 10\text{mA}$			1.2	1.4	V
Reverse Current	$I_R$	$V_R = 4\text{V}$				10	$\mu\text{A}$

### Output Detector Electrical Characteristics

Terminal Capacitance	$C_t$	$V = 0, f = 1\text{KHz}$			30		pF
Collector-emitter Dark Current	$I_{CEO}$	$V_{CE} = 200\text{V}, I_F = 0$				1.0	$\mu\text{A}$
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C = 0.1\text{mA}, I_F = 0$		300			V

### Coupled Electrical Characteristics

Current Transfer ratio	CTR	$I_F = \pm 1\text{mA}, V_{CE} = 2\text{V}$		1000			%
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_F = \pm 20\text{mA}, I_C = 100\text{mA}$				1.5	V
Isolation Resistance	$R_{ISO}$	DC= 500V 40 to 60% RH		$5 \times 10^{10}$	$10^{11}$		$\Omega$
Floating Capacitance	$C_f$	$V = 0, f = 1\text{Mhz}$			0.6	1.0	pF
Responce time (Rise)	$t_r$	$V_{CC} = 2\text{V}, I_C = 20\text{mA}, R_L = 100\Omega$			100	300	$\mu\text{S}$
Responce time (Fall)	$t_f$				20	100	$\mu\text{S}$
Input-to-Output Isolation				3750			V

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