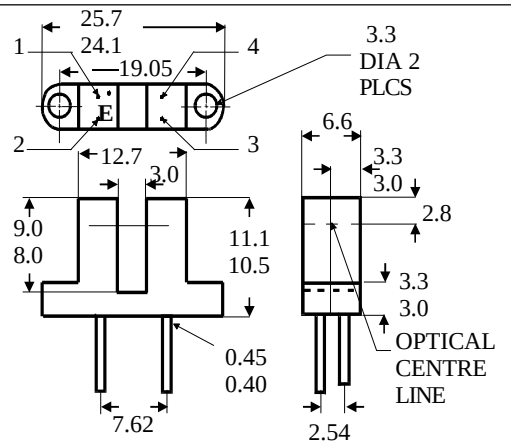
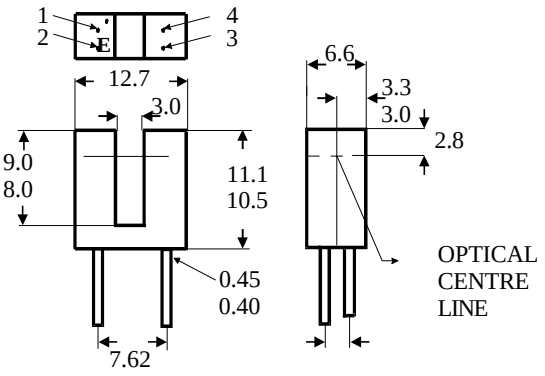
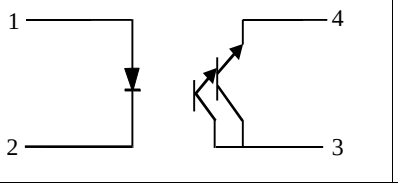
H21B1, H21B2, H21B3, H21B4, H21B5, H21B6
H22B1, H22B2, H22B3, H22B4, H22B5, H22B6

1mm APERTURE OPTO-ELECTRONIC SINGLE CHANNEL SLOTTED INTERRUPTER SWITCHES WITH DARLINGTON SENSORS

Dimensions in mm







H21B1, H21B4
H21B2, H21B5
H21B3, H21B6

H22B1, H22B4
H22B2, H22B5
H22B3, H22B6

DESCRIPTION

The H21B_ and H22B_ series of opaque photointerrupters are single channel switches consisting of a Gallium Arsenide infrared emitting diode and a NPN silicon photo darlington mounted in a polycarbonate housing. The package is designed to optimise the mechanical resolution, coupling efficiency, ambient light rejection, cost and reliability. Operating on the principle that objects opaque to infrared will interrupt the transmission of light between an infrared emitting diode and a photo sensor switching the output from an "ON" state to an "OFF" state.

FEATURES

- High Gain
- 3mm Gap between LED and Detector
- Polycarbonate case protected against ambient light

APPLICATIONS

- Copiers, Printers, Facsimilies, Record Players, Casette Decks, Optoelectronic Switches

ABSOLUTE MAXIMUM RATINGS (25°C unless otherwise specified)

Storage Temperature	-40°C to + 85°C
Operating Temperature	-25°C to + 85°C
Lead Soldering Temperature (1/16 inch (1.6mm) from case for 10 secs)	260°C

INPUT DIODE

Forward Current	50mA
Reverse Voltage	5V
Power Dissipation	75mW

OUTPUT TRANSISTOR

Collector-emitter Voltage BV_{CEO}	
H21B4, 5, 6, H22B4, 5, 6	55V
H21B1, 2, 3, H22B1, 2, 3	30V
Emitter-collector Voltage BV_{ECO}	6V
Collector Current I_C	50mA
Power Dissipation	75mW

ISOCOM COMPONENTS LTD
Unit 25B, Park View Road West,
Park View Industrial Estate, Brenda Road
Hartlepool, Cleveland, TS25 1YD
Tel: (01429) 863609 Fax :(01429) 863581

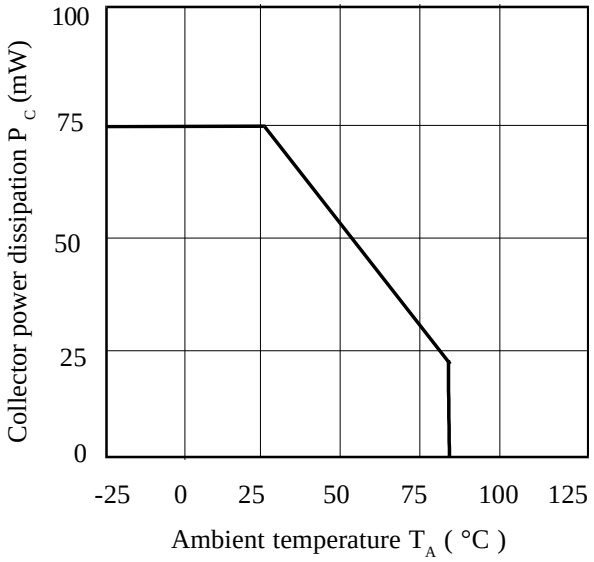
ISOCOM INC
720 E., Park Boulevard, Suite 104,
Plano, TX 75074 USA
Tel: (972) 423-5521
Fax: (972) 422-4549

ELECTRICAL CHARACTERISTICS (T_A= 25°C Unless otherwise noted)

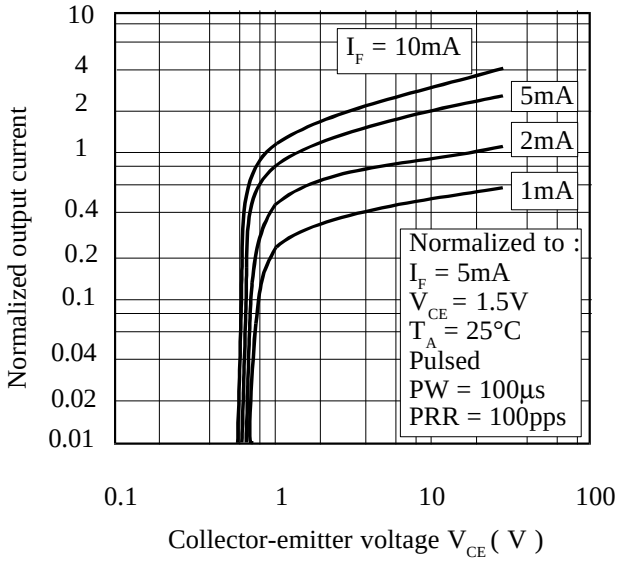
PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)		1.2	1.7	V	I_F = 50mA
	Reverse Voltage (V_R)	5			V	I_R = 1μA
	Reverse Current (I_R)			100	μA	V_R = 6V
Output	Collector-emitter Breakdown (BV_{CEO}) (Note 1)					
	H21B4, 5, 6, H22B4, 5, 6	55			V	I_C = 1mA
	H21B1, 2, 3, H22B1, 2, 3	30			V	I_C = 1mA
	Emitter-collector Breakdown (BV_{ECO})	6			V	I_E = 100μA
	Collector-emitter Dark Current (I_{CEO})			1	μA	V_{CE} = 10V
Coupled	On-State Collector Current I_C ($_{ON}$) (Note 1)					
	H21B1, 4, H22B1, 4	0.5			mA	2mA I_F, 1.5V V_{CE}
		2.5			mA	5mA I_F, 1.5V V_{CE}
		7.5			mA	10mA I_F, 1.5V V_{CE}
	H21B2, 5, H22B2, 5	1.0			mA	2mA I_F, 1.5V V_{CE}
		5.0			mA	5mA I_F, 1.5V V_{CE}
		14			mA	10mA I_F, 1.5V V_{CE}
	H21B3, 6, H22B3, 6	2.0			mA	2mA I_F, 1.5V V_{CE}
		10			mA	5mA I_F, 1.5V V_{CE}
		25			mA	10mA I_F, 1.5V V_{CE}
	Collector-emitter Saturation Voltage $V_{CE(SAT)}$			1.0	V	10mA I_F , 1.8mA I_C
	H21B2, 3, 5, 6, H22B2, 3, 5, 6 only			1.5	V	50mA I_F , 50mA I_C
	Turn-on Time ton		45		μs	V_{CC} = 5V, I_F = 10mA, R_L = 750Ω
	Turn-on Time ton (H21B2, 3, 5, 6, H22B2, 3, 5, 6 only)		7		μs	V_{CC} = 5V, I_F = 50mA, R_L = 75Ω
	Turn-off Time toff		250		μs	V_{CC} = 5V, I_F = 10mA, R_L = 750Ω
	Turn-off Time toff (H21B2, 3, 5, 6, H22B2, 3, 5, 6 only)		45		μs	V_{CC} = 5V, I_F = 50mA, R_L = 75Ω

Note 1 Special Selections are available on request. Please consult the factory.

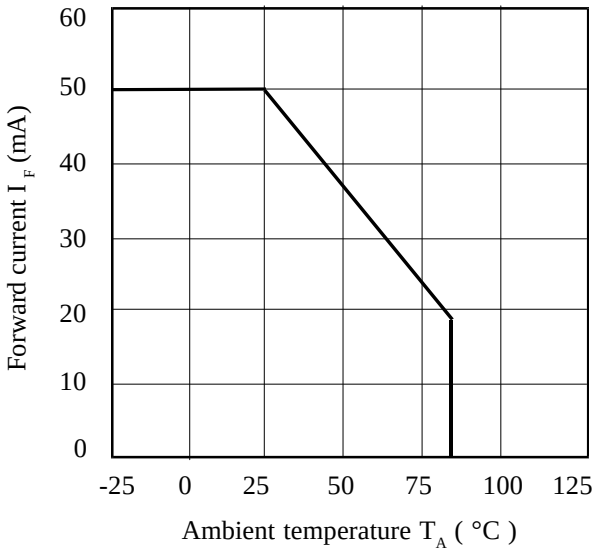
Collector Power Dissipation vs. Ambient Temperature



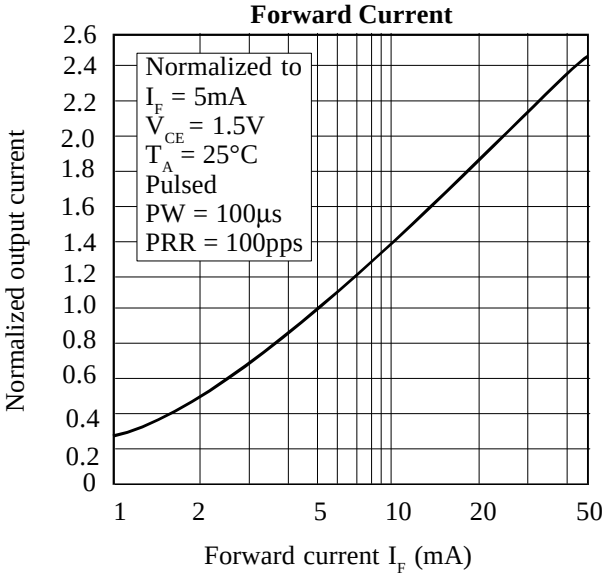
Normalized Output Current vs. Collector-emitter Voltage



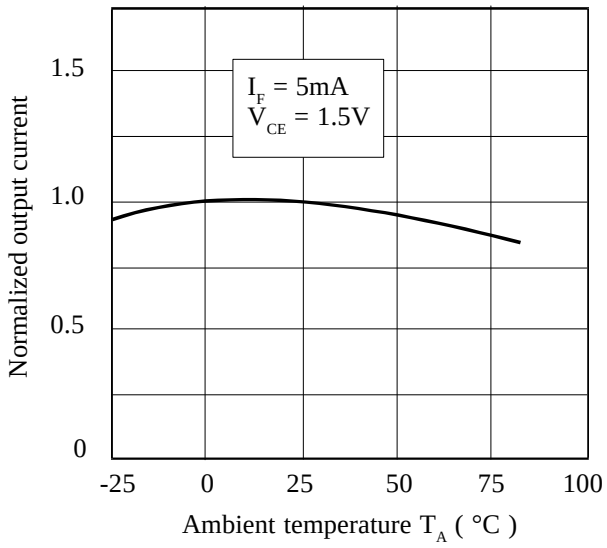
Forward Current vs. Ambient Temperature



Normalized Output Current vs. Forward Current



Normalized Output Current vs. Ambient Temperature



Collector-emitter Saturation Voltage vs. Ambient Temperature