0.5mm APERTURE OPTO-ELECTRONIC SINGLE CHANNEL WIDE GAP SLOTTED INTERRUPTER SWITCHES WITH TRANSISTOR SENSORS

DESCRIPTION

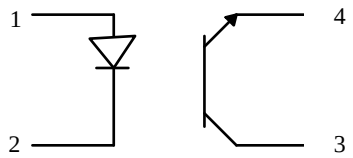
The ISTS802 series of opaque photointerrupters are single channel switches consisting of a Gallium Arsenide infrared emitting diode and a NPN silicon photo transistor mounted in a polycarbonate housing. The package is designed to optimise the mechanical resolution, coupling efficiency, ambient light 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

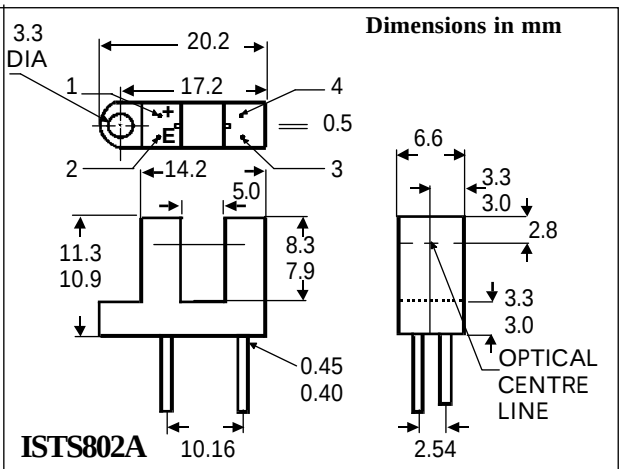
- High Sensing Accuracy Aperture - 0.5mm
- 5mm Gap between LED and Detector
- Also available with flying leads, with or without connector, supplied as required

APPLICATIONS

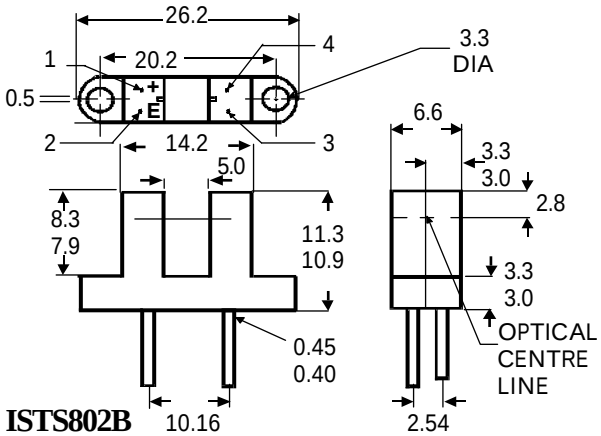
- Copiers, Printers, Facsimilies, Record Players, Casette Decks, Optoelectronic Switches, VCR's



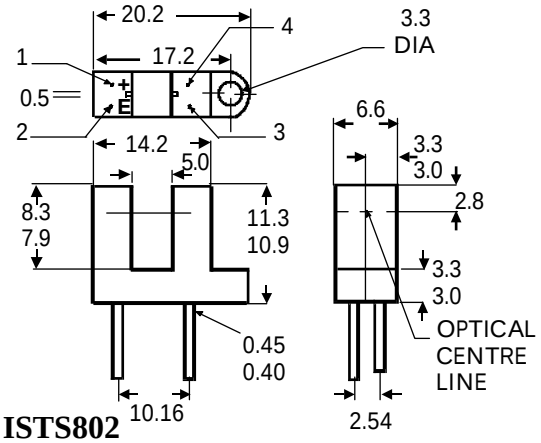
Dimensions in mm



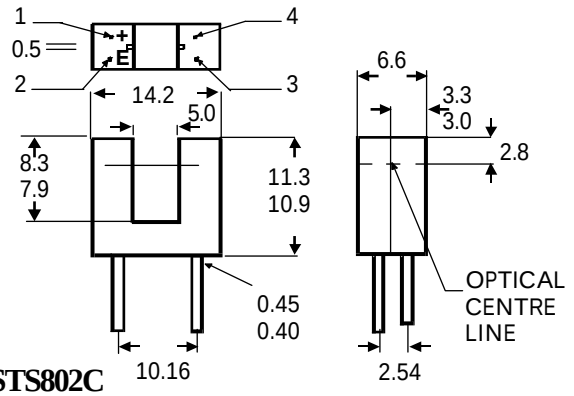
ISTS802A



ISTS802B



ISTS802



ISTS802C

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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

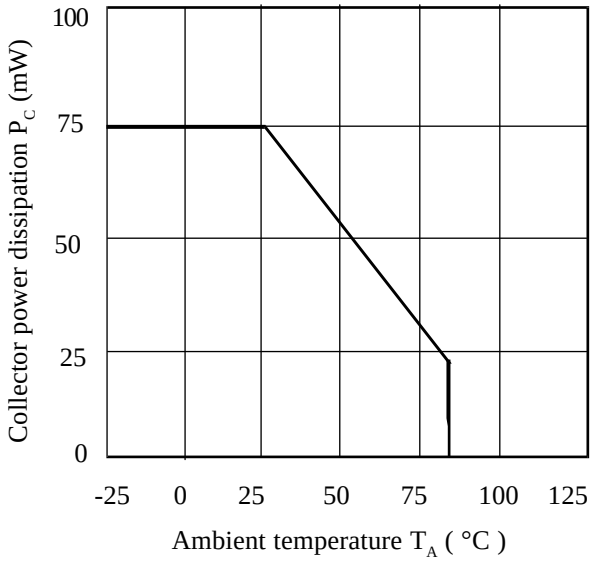
Collector-emitter Voltage BV_{CEO}	30V
Emitter-collector Voltage BV_{ECO}	5V
Collector Current I_C	20mA
Power Dissipation	75mW

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

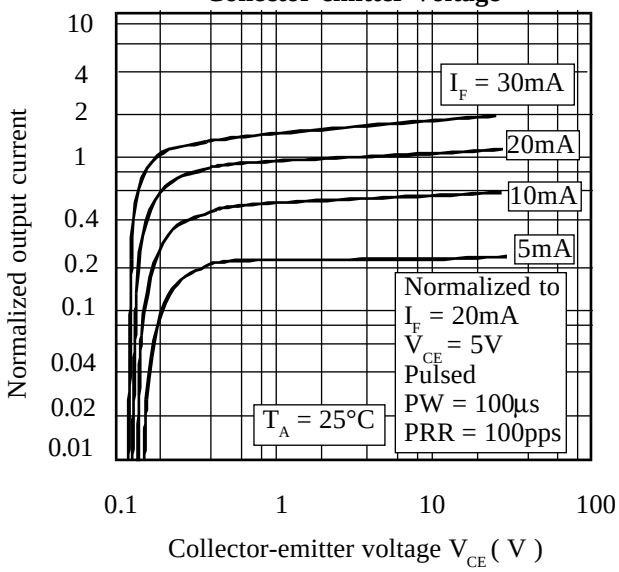
PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)	1.0	1.15	1.3	V	I_F = 10mA
	Reverse Voltage (V_R)	3			V	I_R = 10µA
	Reverse Current (I_R)			10	µA	V_R = 3V
Output	Collector-emitter Breakdown (BV_{CEO}) (Note 1)	30			V	I_C = 1mA
	Emitter-collector Breakdown (BV_{ECO})	5			V	I_E = 100µA
	Collector-emitter Dark Current (I_{CEO})			100	nA	V_{CE} = 24V
Coupled	Current Transfer Ratio (CTR) (Note 1)	2			%	20mA I_F, 5V V_{CE}
	Collector-emitter Saturation Voltage $V_{CE(SAT)}$			0.4	V	20mA I_F , 200µA I_C
	Output Rise Time tr		6		µs	V_{CE} = 5V ,
	Output Fall Time tf		6		µs	I_C = 2mA,R_L= 100Ω

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

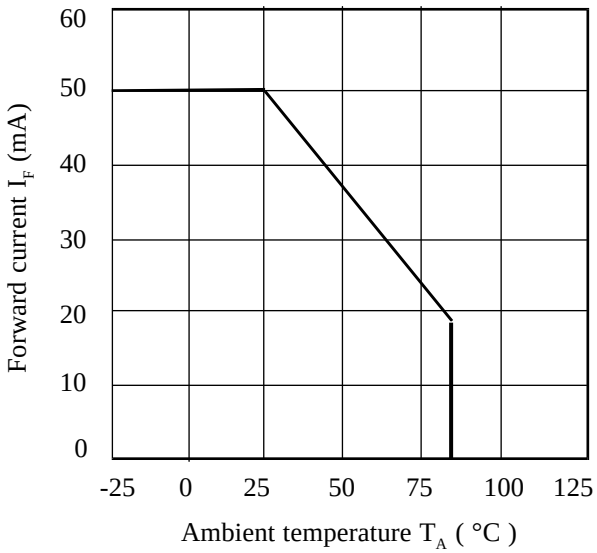
Collector Power Dissipation vs. Ambient Temperature



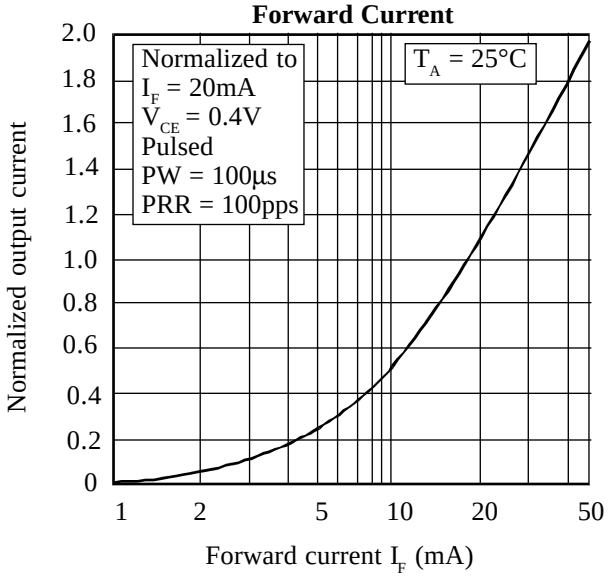
Normalized Output Current vs. Collector-emitter Voltage



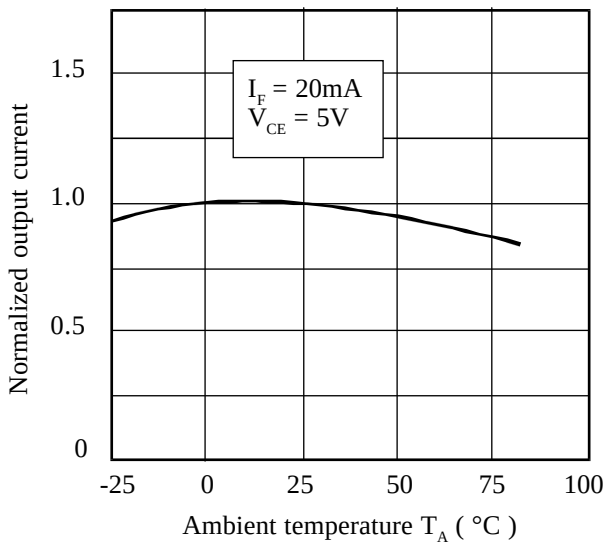
Forward Current vs. Ambient Temperature



Normalized Output Current vs. Forward Current



Normalized Output Current vs. Ambient Temperature



Collector-emitter Saturation Voltage vs. Ambient Temperature

