



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

DESCRIPTION

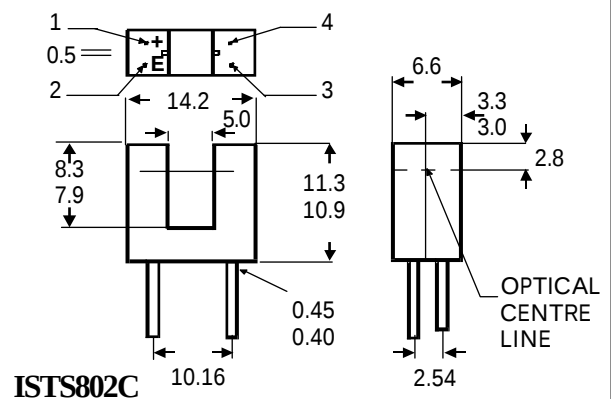
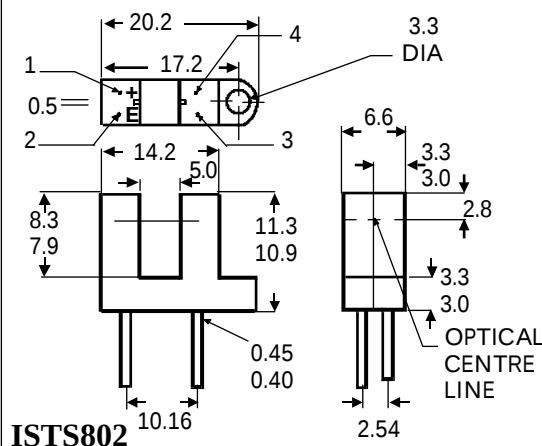
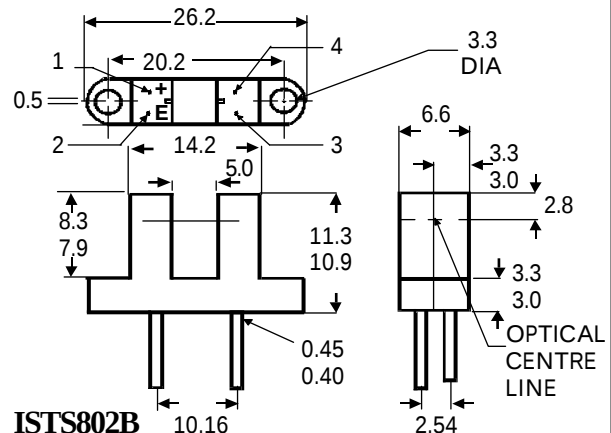
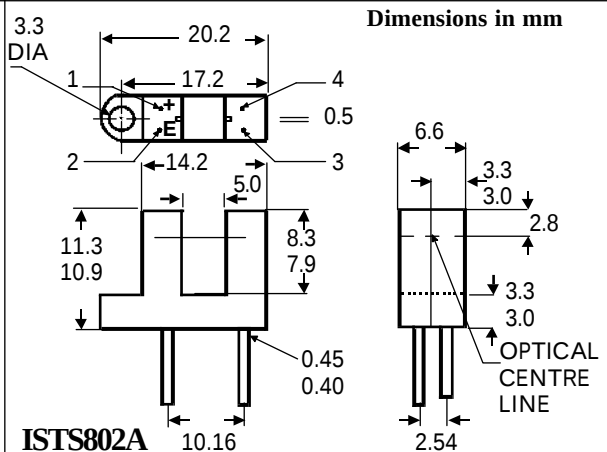
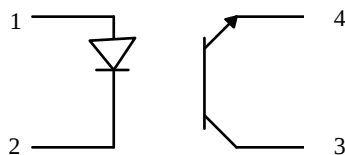
The ISTS802 series of opaque photointerrupters are single channel switches consisting of a Gallium Arsenide infrared emitting diode and a NPN silicon photo transistor mounted in a polycarbonate housing. The package is designed to optimise the mechanical resolution, coupling efficiency, ambient light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



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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

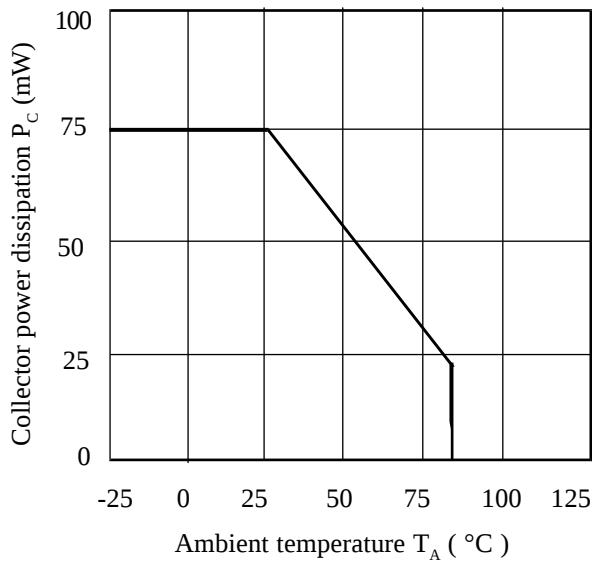
Collector-emitter Voltage BV_{CEO}	_____	30V
Emitter-collector Voltage BV_{ECO}	_____	5V
Collector Current I_C	_____	20mA
Power Dissipation	_____	75mW

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ Unless otherwise noted)

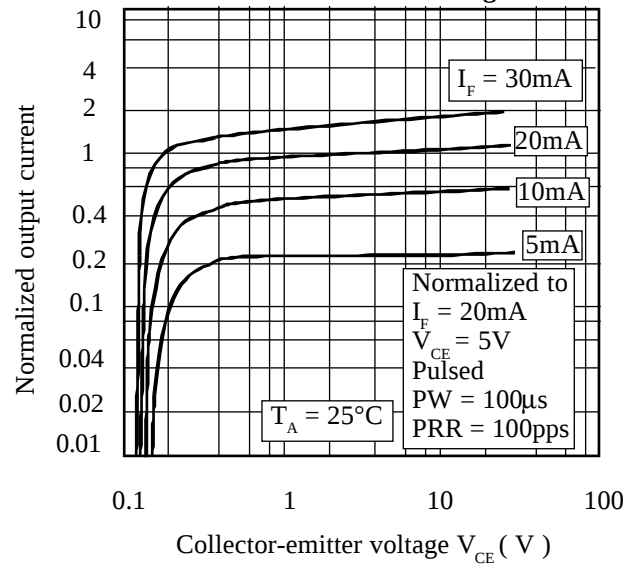
PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)	1.0	1.15	1.3	V	$I_F = 10\text{mA}$
	Reverse Voltage (V_R)	3			V	$I_R = 10\mu\text{A}$
	Reverse Current (I_R)			10	μA	$V_R = 3\text{V}$
Output	Collector-emitter Breakdown (BV_{CEO}) (Note 1)	30			V	$I_C = 1\text{mA}$
	Emitter-collector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

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

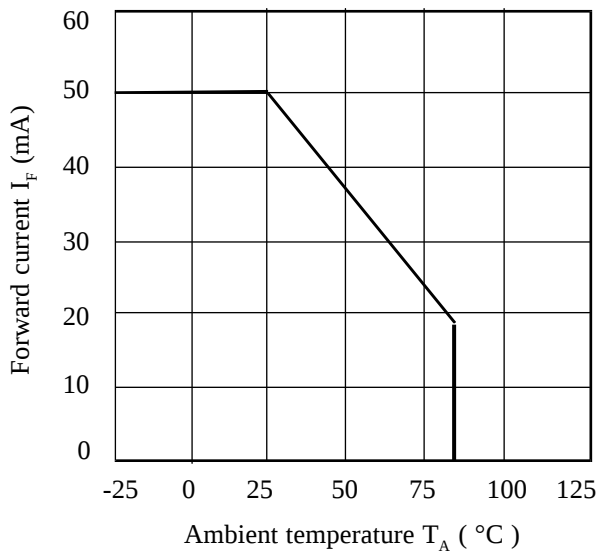
Collector Power Dissipation vs. Ambient Temperature



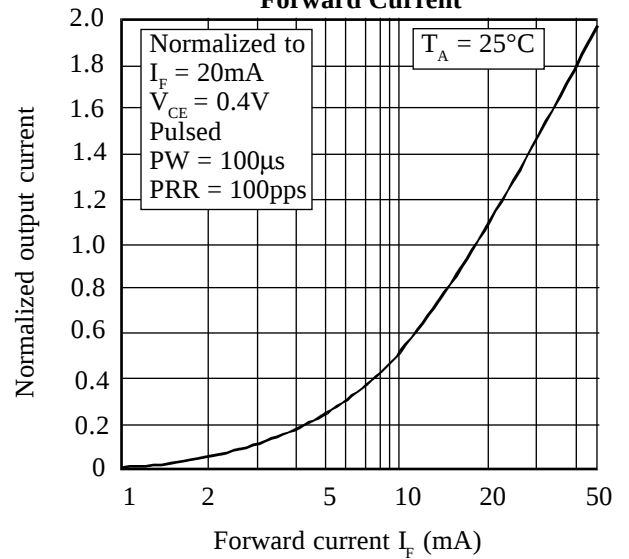
Normalized Output Current vs. Collector-emitter Voltage



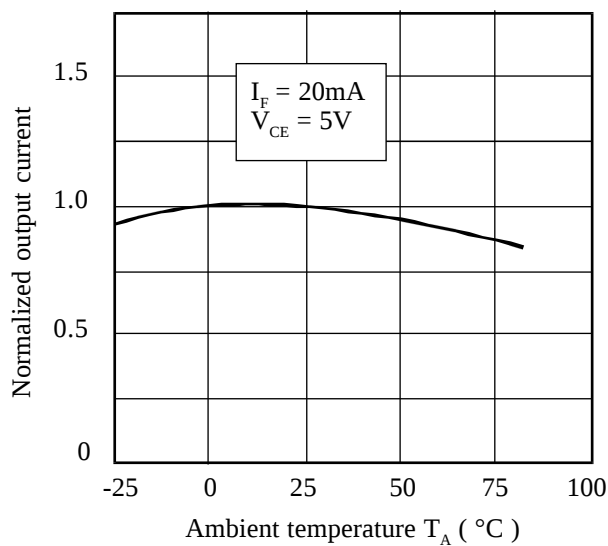
Forward Current vs. Ambient Temperature



Normalized Output Current vs. Forward Current



Normalized Output Current vs. Ambient Temperature



Collector-emitter Saturation Voltage vs. Ambient Temperature

