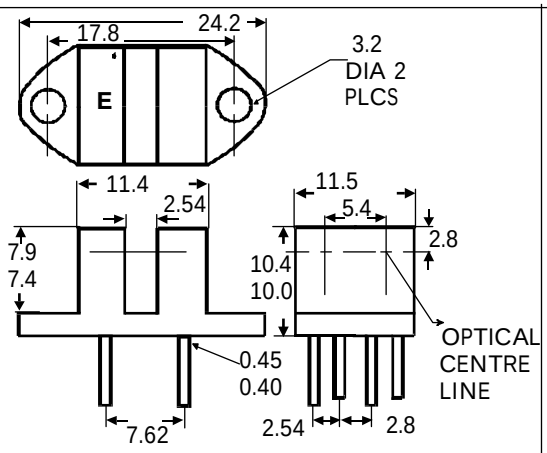
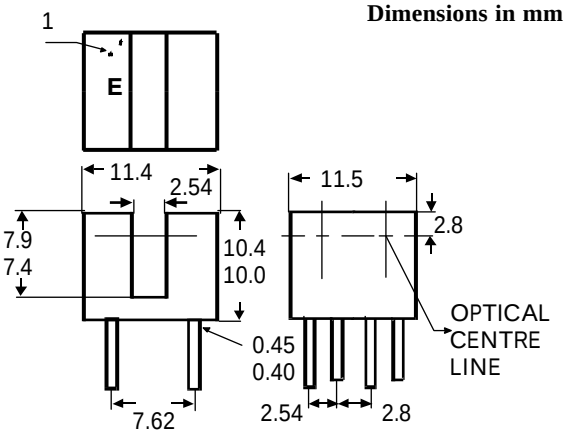
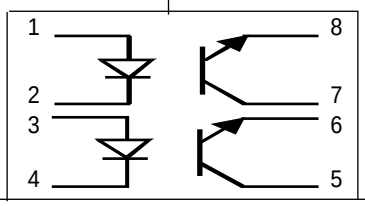
ISTS150, ISTS832S, ISTS832SD
ISTS250, ISTS822S, ISTS822SD

TRANSMISSIVE OPTO-ELECTRONIC DUAL CHANNEL SLOTTED INTERRUPTER SWITCHES WITH TRANSISTOR SENSORS

Dimensions in mm







ISTS250
ISTS822S
ISTS822SD

ISTS150
ISTS832S
ISTS832SD

DESCRIPTION

This series of photointerrupters are dual channel switches consisting of two Gallium Arsenide infrared emitting diodes and two NPN silicon photo transistors mounted in a "side by side" configuration on opposite sides of a 2.5mm wide slot. Dual channels enable direction of travel sensing. The transmissive housing reduces possible interference from ambient light and provides dust and dirt protection. In addition the ISTS822S, ISTS832S have 0.25mm apertures in front of the phototransistors, While the ISTS822SD, ISTS832SD have the same sized apertures in front of both emitters and phototransistors

FEATURES

- Single or Double apertures for High Resolution
- 2.5mm Gap between LED and Detector
- Dual channels "side by side"

APPLICATIONS

- Copiers, Printers, Facsimilies, Record Players, Cassette Decks, VCR's

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

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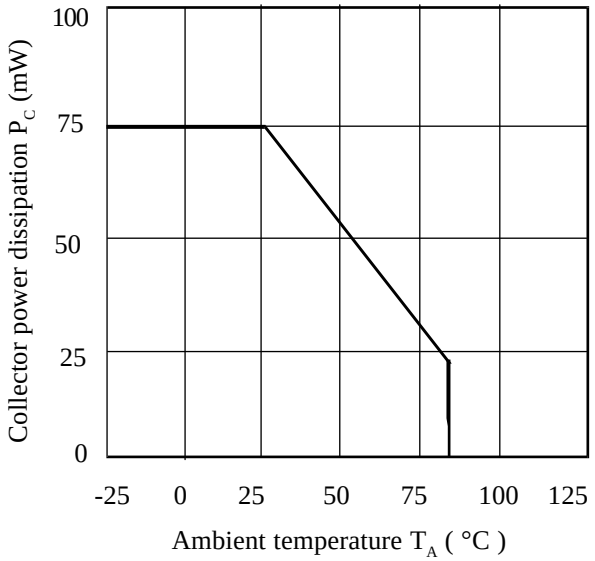
ELECTRICAL CHARACTERISTICS (T_A= 25°C Unless otherwise noted)

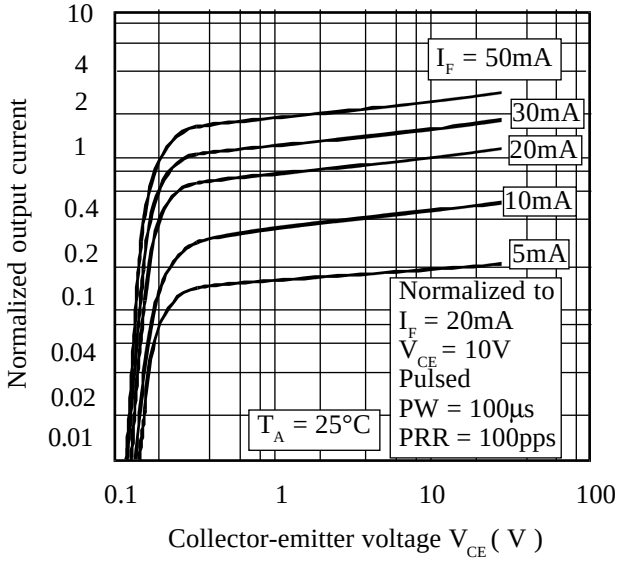
PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)		1.2	1.6	V	I_F = 20mA
	Reverse Voltage (V_R)	3			V	I_R = 10µA
	Reverse Current (I_R)			10	µA	V_R = 3V
Output	Collector-emitter Breakdown (BV_{CEO}) (Note 1)	30			V	I_C = 1mA
	Emitter-collector Breakdown (BV_{ECO})	5			V	I_E = 100µA
	Collector-emitter Dark Current (I_{CEO})			100	nA	V_{CE} = 10V
Coupled	On-State Collector Current I_C ($_{ON}$) (Note 1)					
	ISTS150, ISTS250 (no apertures)	250			µA	20mA I_F , 10V V_{CE}
	ISTS822S, ISTS832S (0.25mm apertures phototransistors only)	250			µA	20mA I_F , 10V V_{CE}
	ISTS822SD, ISTS832SD (0.25mm apertures in front of both - - emitters and phototransistors)	100			µA	20mA I_F , 10V V_{CE}
	Collector-emitter Saturation Voltage$V_{CE(SAT)}$					
	ISTS150, ISTS250			0.4	V	20mA I_F , 125µA I_C
	ISTS822S, ISTS832S			0.4	V	20mA I_F , 125µA I_C
	ISTS822SD, ISTS832SD			0.4	V	20mA I_F , 50µA I_C
	Rise Time tr		6		µs	V_{CC} = 5V,
	Fall Time tf		6		µs	I_F = 20mA, R_L = 100Ω

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

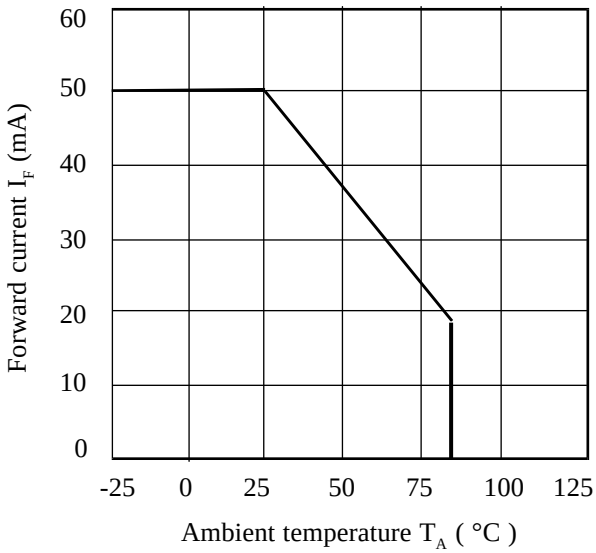
Collector Power Dissipation vs. Ambient Temperature



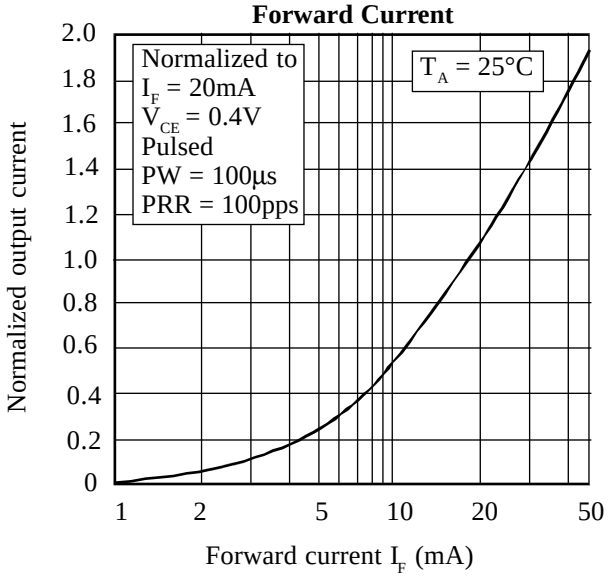
Normalized Output Current vs. Collector-emitter Voltage



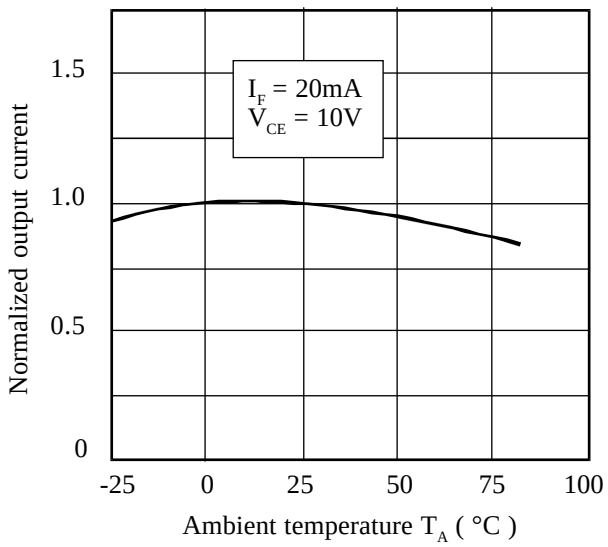
Forward Current vs. Ambient Temperature



Normalized Output Current vs. Forward Current



Normalized Output Current vs. Ambient Temperature



Collector-emitter Saturation Voltage vs. Ambient Temperature