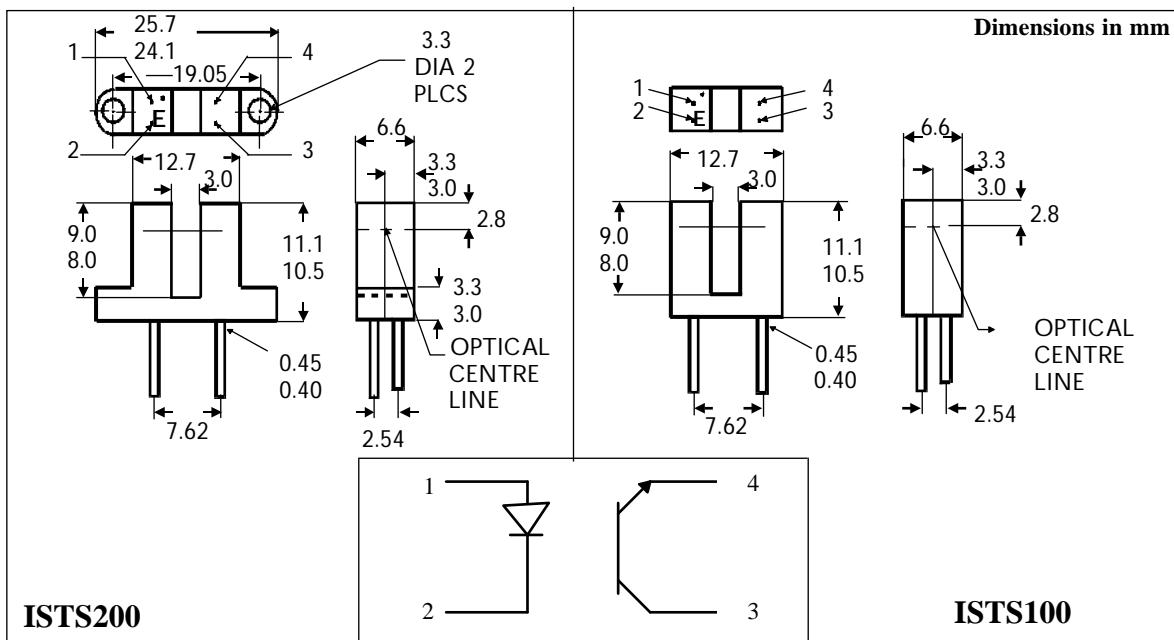


1mm APERTURE OPTO-ELECTRONIC SINGLE CHANNEL SLOTTED INTERRUPTER SWITCHES WITH TRANSISTOR SENSORS



DESCRIPTION

The ISTS100, ISTS200 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 Gain
- 3mm Gap between LED and Detector
- Polycarbonate case protected against ambient light

APPLICATIONS

- Copiers, Printers, Facsimiles, Record Players, Cassette 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}	—	30V
Emitter-collector Voltage BV_{ECO}	—	5V
Collector Current I_c	—	20mA
Power Dissipation	—	75mW

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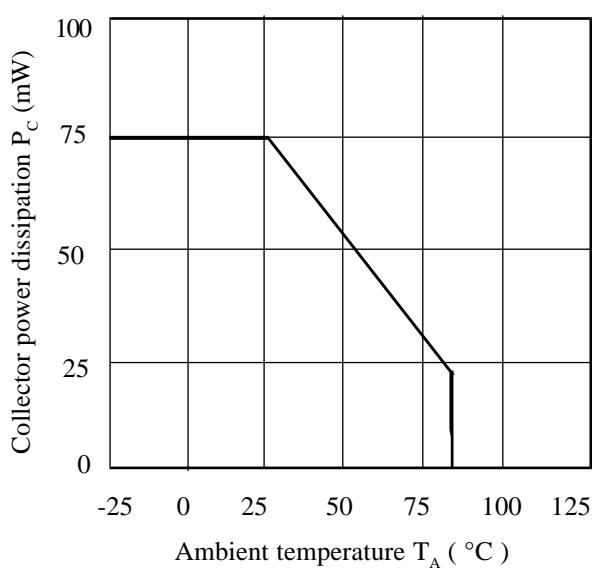
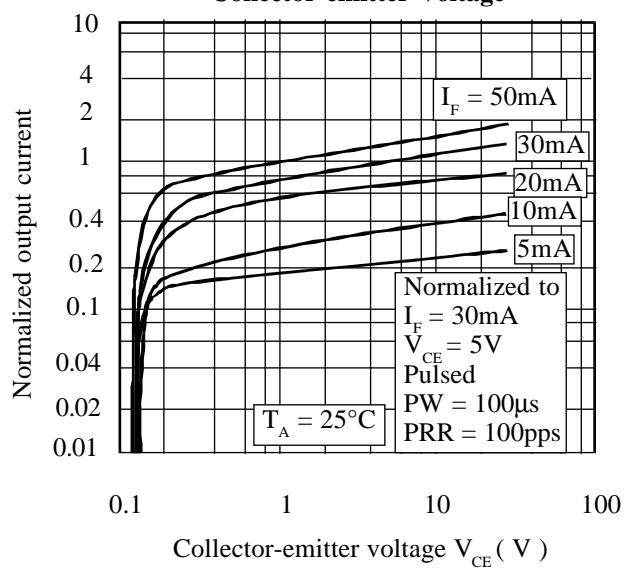
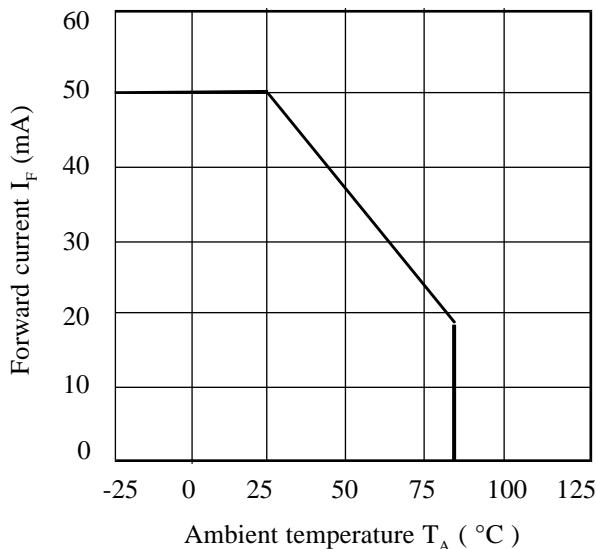
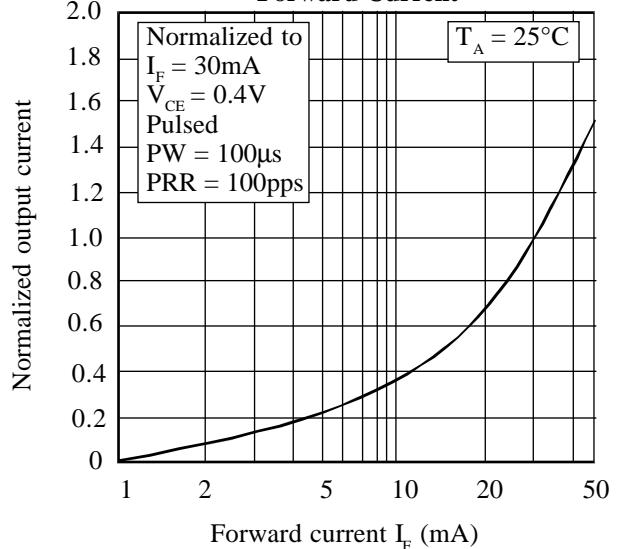
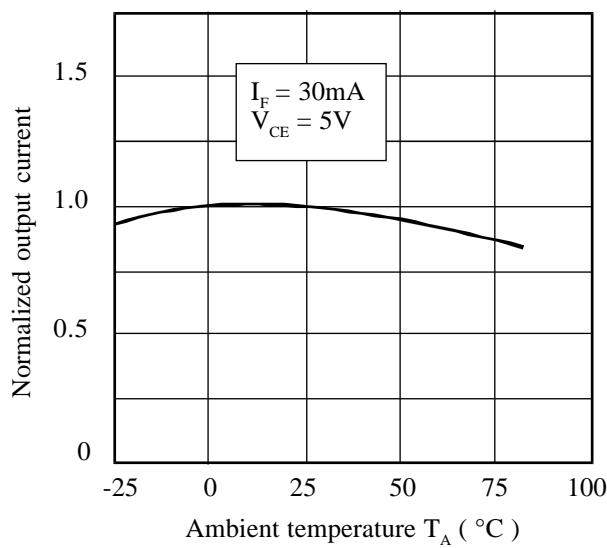
ISOCOM INC

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

PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F) Reverse Voltage (V_R) Reverse Current (I_R)	5	1.2	1.7 100	V V μA	$I_F = 50\text{mA}$ $I_R = 100\mu\text{A}$ $V_R = 5\text{V}$
Output	Collector-emitter Breakdown (BV_{CEO}) (Note 1) Emitter-collector Breakdown (BV_{ECO}) Collector-emitter Dark Current (I_{CEO})	30			V	$I_c = 1\text{mA}$ $I_E = 100\mu\text{A}$ $V_{CE} = 10\text{V}$
Coupled	On-State Collector Current $I_C(ON)$ (Note 1) Collector-emitter Saturation Voltage $V_{CE(SAT)}$ Turn-on Time t_{on} Turn-off Time t_{off}	1.9		0.4 8 50	mA V μs μs	30mA I_F , 5V V_{CE} 30mA I_F , 1.8mA I_c $V_{CC} = 5\text{V}$, $I_F = 30\text{mA}, R_L = 2.5\text{k}\Omega$

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**