REFLECTIVE OPTICAL SWITCHES

DESCRIPTION

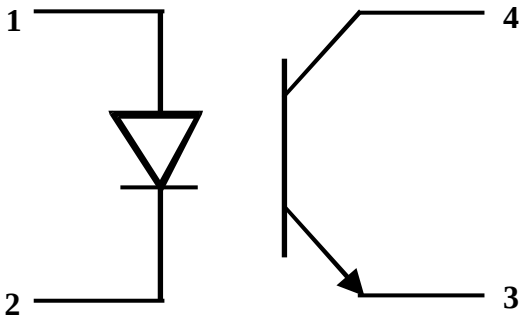
The ISTS149, ISTS703A, ISTS708 each consist of an infrared emitting diode and a NPN silicon photo transistor mounted side by side on converging axes in a polycarbonate housing. The package is designed to optimise the mechanical resolution, coupling efficiency, ambient light rejection, cost and reliability.The phototransistor responds to radiation from the emitter only when a reflective object passes within its field of view

FEATURES

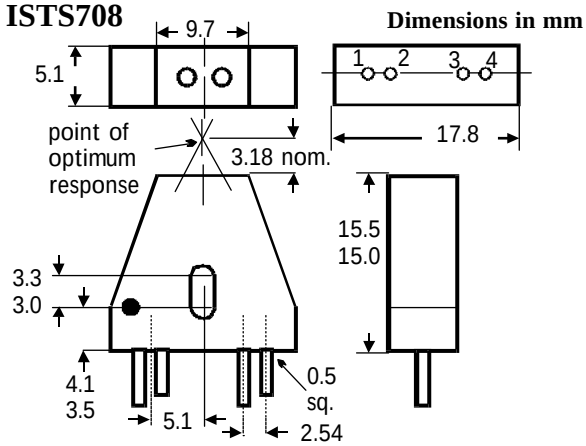
- Phototransistor output
- Opaque housing provides improved visible light rejection
- Three available package types
- Adjustable side-mounting provision
- Also available with flying leads, with or without connector, supplied as required

APPLICATIONS

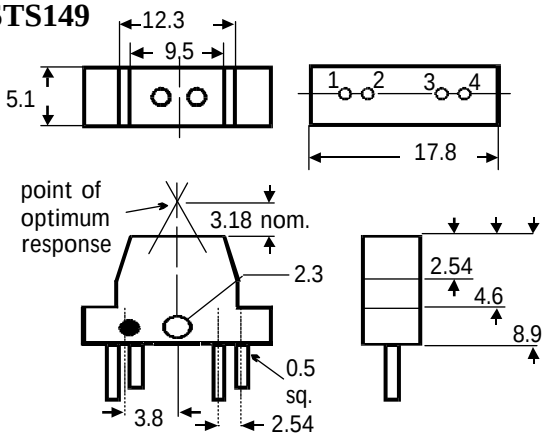
- Copiers, Printers, Facsimilies, Record Players, Casette Decks, Optoelectronic Switches, VCR's,



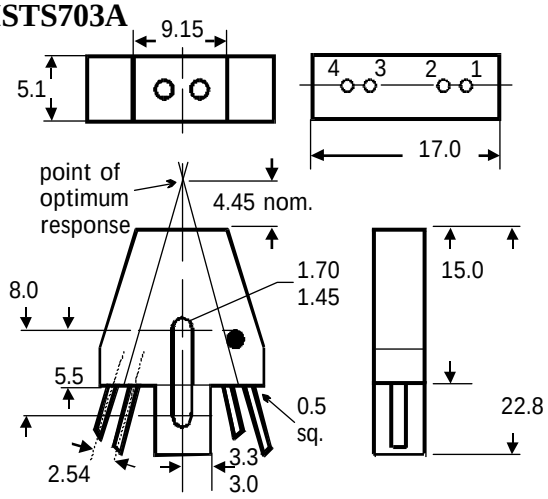
ISTS708 Dimensions in mm



ISTS149



ISTS703A



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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	60mA
Reverse Voltage	3V
Power Dissipation	90mW

OUTPUT TRANSISTOR

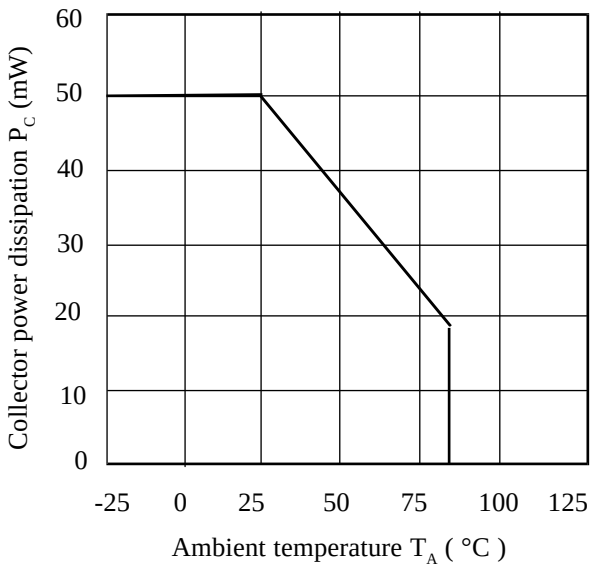
Collector-emitter Voltage BV_{CEO}	30V
Emitter-collector Voltage BV_{ECO}	5V
Collector Current I_C	20mA
Power Dissipation	50mW

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

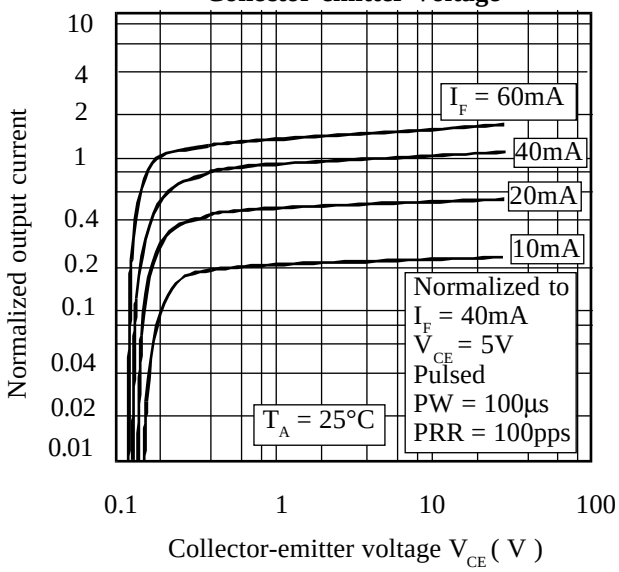
PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)			1.6	V	I_F = 40mA
	Reverse Voltage (V_R)	3			V	I_R = 100µA
	Reverse Current (I_R)			100	µA	V_R = 3V
Output	Collector-emitter Breakdown (BV_{CEO}) (Note 1)	30			V	I_C = 1mA
	Emitter-collector Breakdown (BV_{ECO})	5			V	I_E = 100µA
	Collector-emitter Dark Current (I_{CEO})			100	nA	V_{CE} = 15V
Coupled	On-State Collector Current I_C (ON) (Note 1)					
	ISTS149	25			µA	40mA I_F , 5V V_{CE} D(mm) = 3.8mm
	ISTS703A	200			µA	40mA I_F , 5V V_{CE} D(mm) = 3.8mm
	ISTS708	10			µA	40mA I_F , 5V V_{CE} D(mm) = 3.8mm
	Collector-emitter Saturation Voltage $V_{CE(SAT)}$					
	ISTS149			0.4	V	40mA I_F , 3µA I_C D(mm) = 3.8mm
	ISTS703A			0.4	V	40mA I_F , 100µA I_C D(mm) = 3.8mm
	ISTS708			0.4	V	40mA I_F , 3µA I_C D(mm) = 3.8mm

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

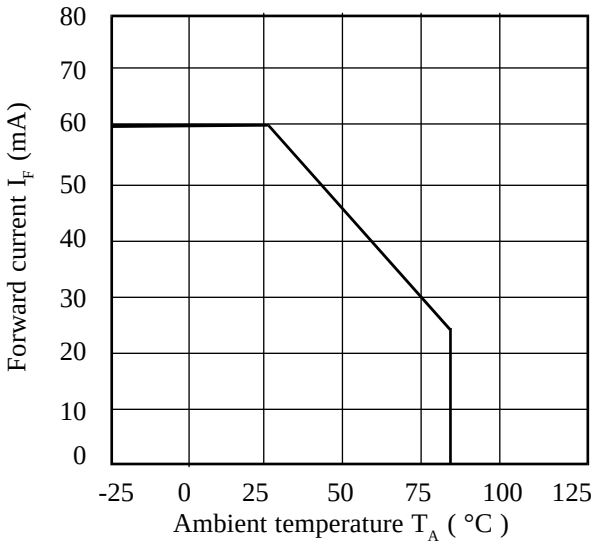
Collector Power Dissipation vs. Ambient Temperature



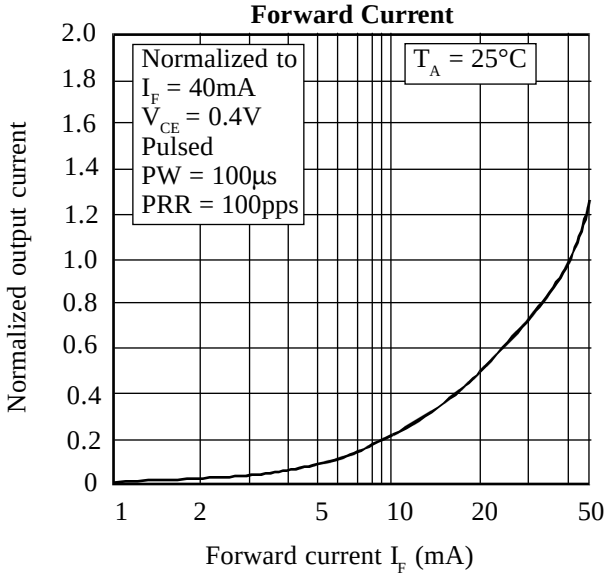
Normalized Output Current vs. Collector-emitter Voltage



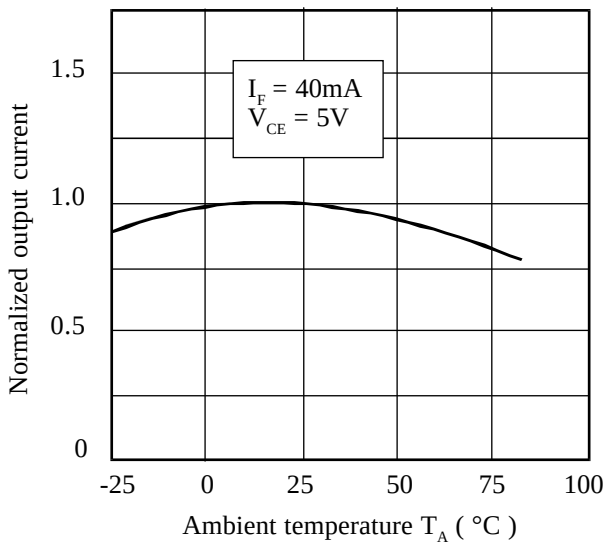
Forward Current vs. Ambient Temperature



Normalized Output Current vs. Forward Current



Normalized Output Current vs. Ambient Temperature



Collector-emitter Saturation Voltage vs. Ambient Temperature

