



DC Input Dual
Optocoupler

DESCRIPTION

The SDT800 consists of two phototransistors, each optically coupled to a light emitting diodes for DC input operation. Optical coupling between the input LEDs and output phototransistor allows for high isolation levels while maintaining low-level DC signal control capability. The SDT800 provides an optically isolated method of controlling many interface applications such as telecommunications, industrial control and instrumentation circuitry.

FEATURES

- High input-to-output isolation package
- Low input power consumption
- High stability
- CTR (MIN:50%-MAX-600% @IF=5mA Vce=5V)

APPLICATIONS

- Registers, copiers, Automatic Vending Machines
- System appliances, measuring instruments
- Computer terminals, PLCs
- Telecommunications, telephones
- Home Appliances
- Digital logic inputs
- Microprocessor inputs
- Switching power supply, laser beam printers, etc.

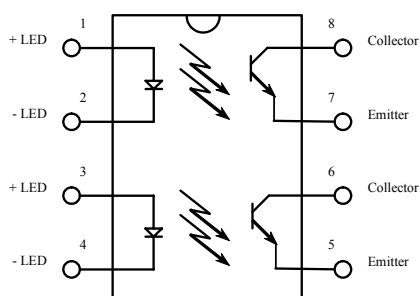
OPTIONS/SUFFIXES

- -S Surface Mount Option
- -TR Tape and Reel Option

MAXIMUM RATINGS

PARAMETER	UNIT	MIN	TYP	MAX
Storage Temperature	°C	-55		125
Operating Temperature	°C	-40		85
Continuous Input Current	mA			50
Transient Input Current	A			1
Reverse Input Control Voltage	V			6
Output Power Dissipation	mW			200

SCHEMATIC DIAGRAM



APPROVALS

- UL and C-UL Approved File #201932



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ELECTRICAL CHARACTERISTICS - 25°

PARAMETER	UNIT	MIN	TYP	MAX	TEST CONDITIONS
INPUT SPECIFICATIONS					
LED Forward Voltage	V		1.2	1.4	If = 10mA
Peak Forward Voltage	V			3	Ifm = 0.5A
Reverse Current	μ A			10	Vr=4V
OUTPUT SPECIFICATIONS					
Collector-Emitter Breakdown Voltage	V	60			Ic = 10uA
Emitter-Collector Breakdown Voltage	V	6			Ie = 10uA
Dark Current	μ A			0.1	Vce = 20V
Floating Capacitance	p F		0.6	1	Vce = 0V, f=1.0MHz
Saturation Voltage	V		0.1	0.2	If = 20mA, Ic = 1mA
Current Transfer Ratio	%	50		600	If = 5mA, Vce = 5V
Rise Time	μ s		4		Ic = 2mA, Vce = 2V, Rc =100 ohms
Fall Time	μ s		3		Ic = 2mA, Vce = 2V, Rc = 100 ohms
COUPLED SPECIFICATIONS					
Isolation Voltage	V	5000			T = 1 minute
Isolation Resistance	G Ω	50			DC500V



Fig.1 Current Transfer Ratio vs. Forward Current

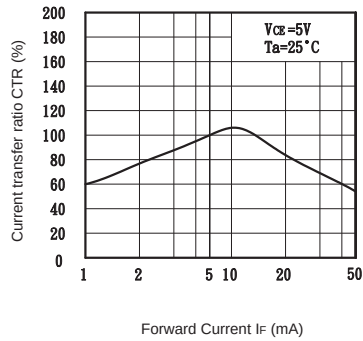


Fig.2 Collector Power Dissipation vs. Ambient Temperature

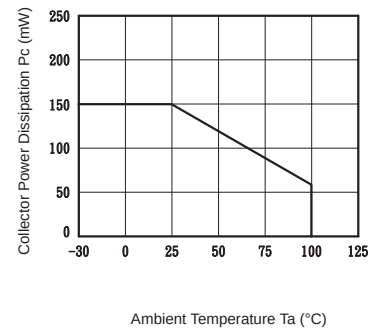


Fig.3 Collector Dark Current vs. Ambient Temperature

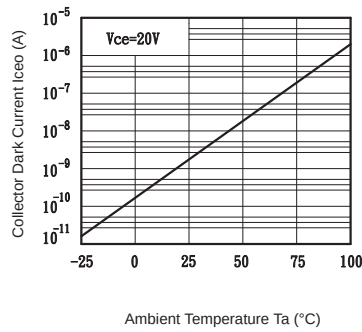


Fig.4 Forward Current vs. Ambient Temperature

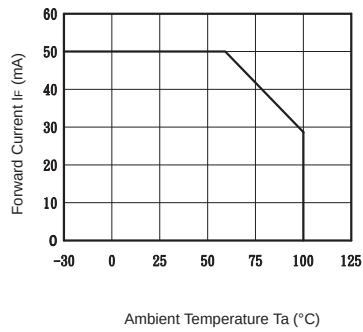


Fig.5 Forward Current vs. Forward Voltage

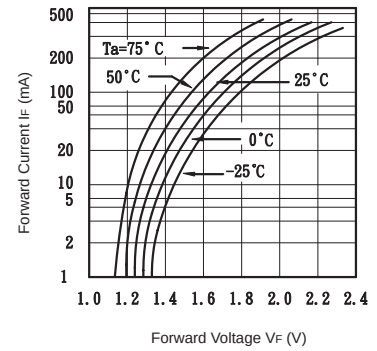


Fig.6 Collector Current vs. Collector-emitter Voltage

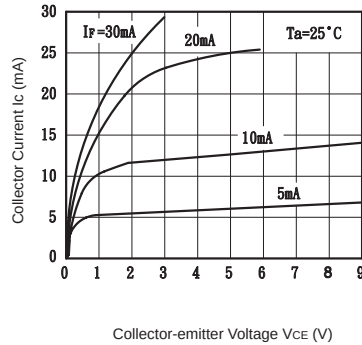


Fig.7 Relative Current Transfer Ratio vs. Ambient Temperature

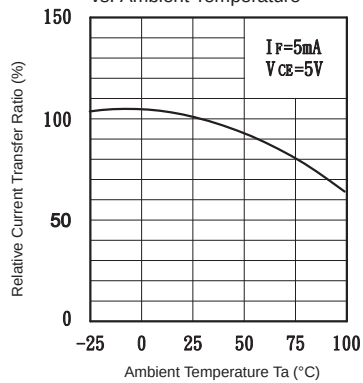


Fig.8 Collector-emitter Saturation Voltage vs. Ambient Temperature

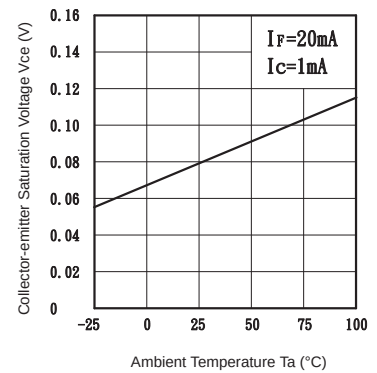


Fig.9 Collector-emitter Saturation Voltage vs. Forward Current

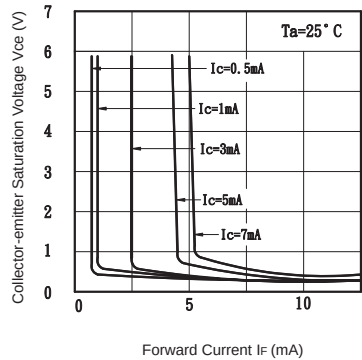


Fig.10 Response Time vs. Load Resistance

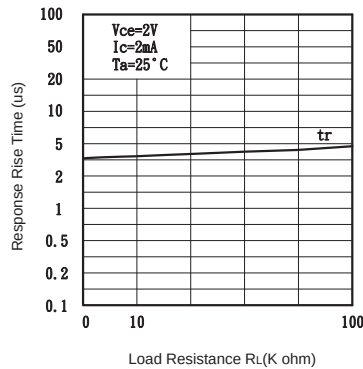
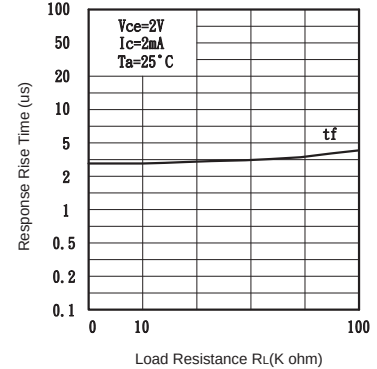


Fig.11 Response Time vs. Load Resistance

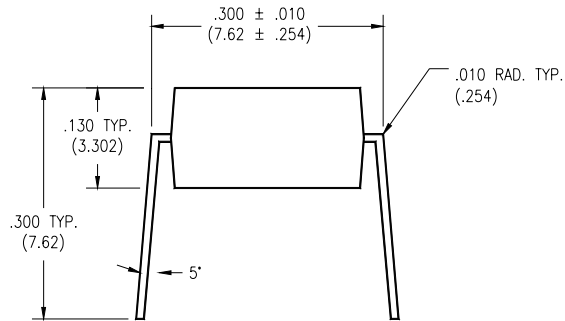


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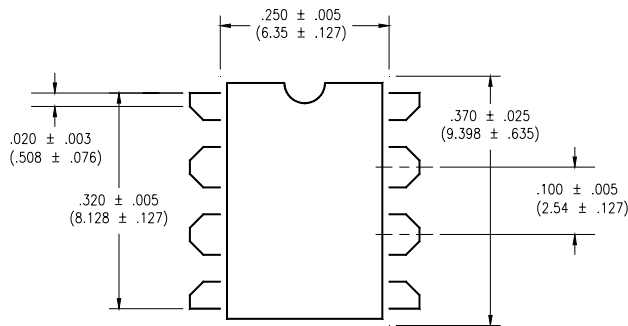


MECHANICAL DIMENSIONS

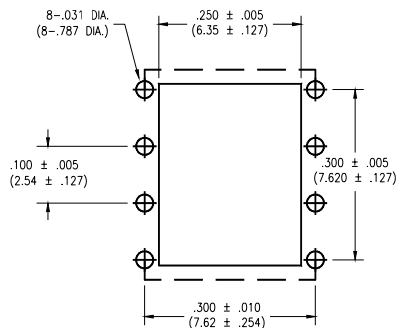
8 PIN DUAL IN-LINE PACKAGE



END VIEW

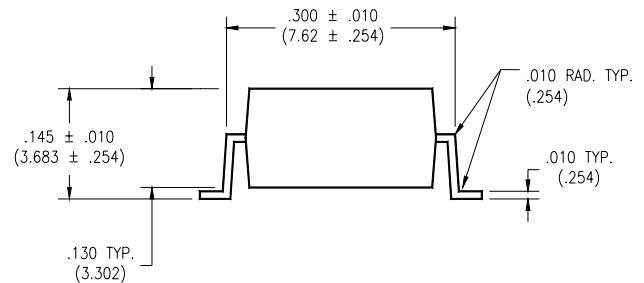


TOP VIEW

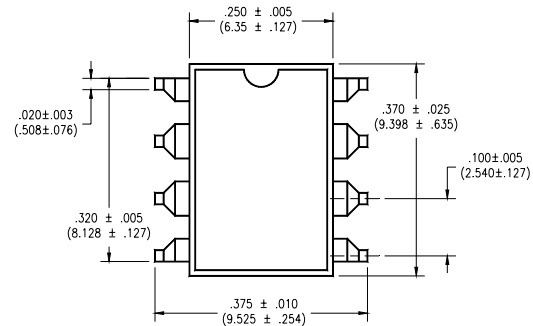


BOTTOM VIEW/
BOARD PATTERN

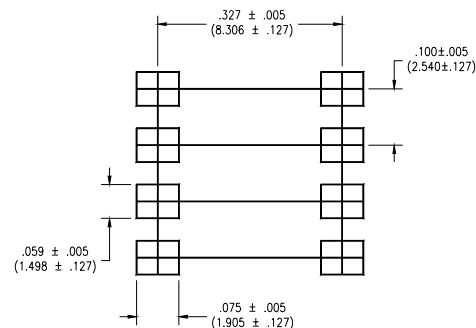
8 PIN SURFACE MOUNT DEVICE



END VIEW



TOP VIEW



BOTTOM VIEW/
BOARD PATTERN