



PRELIMINARY

SOLID STATE DEVICES, INC

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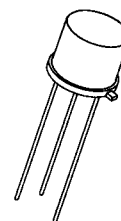
SFT8600

1 AMP
1000 VOLTS
NPN TRANSISTOR

Designer's Data Sheet

FEATURES:

- BVCEO to 400 volts
- Very Low Saturation Voltage
- Very Low Leakage
- High Gain from 20 mA to 250mA
- 200°C Operating, Gold Eutectic Die Attach
- Superior Performance over JEDEC 2N5010-15 Series
- High Speed Switching $t_f = 0.4\mu\text{s}$ TYP

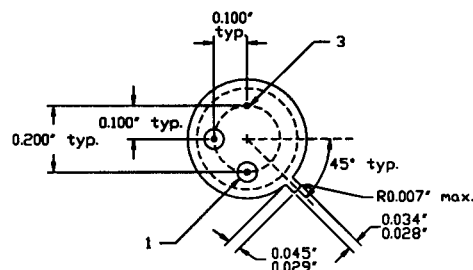
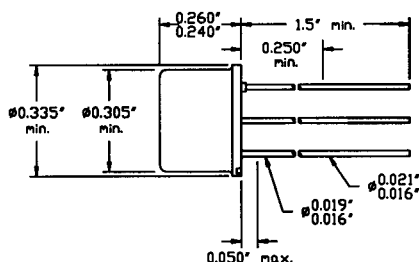


MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Collector-Emitter Voltage (RBE = 1K Ω)	V _{CEO} V _{CER}	400 1000	V
Collector-Base Voltage	V _{CBO}	1000	V
Emitter-Base Voltage	V _{EBO}	6	V
Collector Current	I _C	1	A
Base Current	I _B	100	mA
Total Device Dissipation @ TC= 25°C Derate above 25°C	P _D	2.0 2.0	W mW/°C
Operating and Storage Temperature	T _j , T _{stg}	-65 to +200	°C
Thermal Resistance, Junction to Case	R _{θJC}	50	°C/W

CASE OUTLINE: TO-5

PIN OUT:

PIN 1: EMITTER
PIN 2: BASE
PIN 3: COLLECTOR

NOTE: All specifications are subject to change without notification. SSDI's for these devices should be reviewed by SSDI prior to release.

DATA SHEET: XN0033 D

MED

SFT8600**SOLID STATE DEVICES, INC**
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ELECTRICAL CHARACTERISTICS @ T_J=25°C (Unless Otherwise Specified)

RATING	SYMBOL	MIN	MAX	UNIT
Collector-Emitter Breakdown Voltage (I _C = 10 mA _{dc}) (I _C = 20 μA _{dc} , R _{BE} = 1 KΩ)	BV_{CEO} BV_{CER}	400 1000	---	V
Collector- Base Breakdown Voltage (I _C = 20 μA _{dc})	BV_{CBO}	1000	---	V
Emitter-Base Breakdown Voltage (I _E = 20 μA _{dc})	BV_{EBO}	6	---	V
Collector Cutoff Current (V _{CB} = 800 V)	I_{CBO}	---	10	μA_{dc}
Collector Cutoff Current (V _{CE} = 400 V _{dc})	I_{CEO}	---	10	μA_{dc}
Emitter Cutoff Current (V _{EB} = 4 V)	I_{EBO}	---	1	μA_{dc}
DC Current Gain* (I _C = 5mA _{dc} , V _{CE} = 5V _{dc}) (I _C = 10mA _{dc} , V _{CE} = 5V _{dc}) (I _C = 100mA _{dc} , V _{CE} = 5V _{dc}) (I _C = 250mA _{dc} , V _{CE} = 5V _{dc})	h_{FE}	30 40 20 15	200	
Collector -Emitter Saturation Voltage* (I _C = 20mA _{dc} , I _B = 2 mA _{dc}) (I _C = 100mA _{dc} , I _B =10 mA _{dc})	V_{CE(SAT)}	---	0.3 0.5	V_{dc}
Base-Emitter Saturation Voltage* (I _C = 20 mA _{dc} , I _B = 2 mA _{dc}) (I _C =100 mA _{dc} , I _B = 10mA _{dc})	V_{BE(SAT)}	---	0.8 1.0	V_{dc}
Current Gain Bandwidth Product (I _C = 100 mA _{dc} , V _{CE} = 10 V _{dc} , f= 10 MHz)	f_T	8.0	---	MHz
Output Capacitance (V _{CB} = 20 V _{dc} , I _E = 0 A _{dc} , f=1.0 MHz)	C_{ob}	---	15	pF
Delay Time Rise Time Storage Time Fall Time	td tr ts tf	---	50 150 3 800	nsec nsec μsec nsec

* Pulse Test: Pulse Width = 300 μS, Duty Cycle = 2%

For thermal derating curves and other characteristic curves please contact SSDI Marketing Department.