



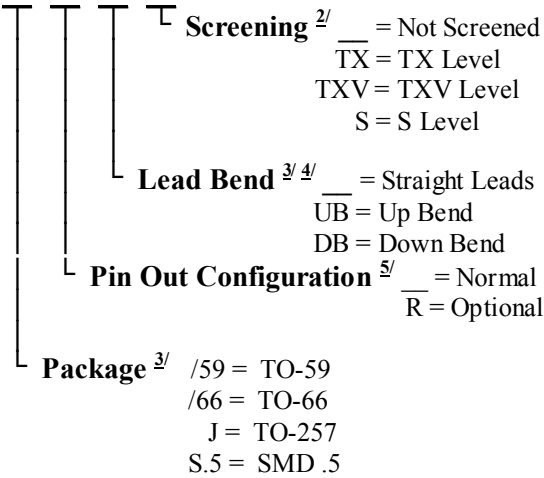
Solid State Devices, Inc.

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DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

SFT5001



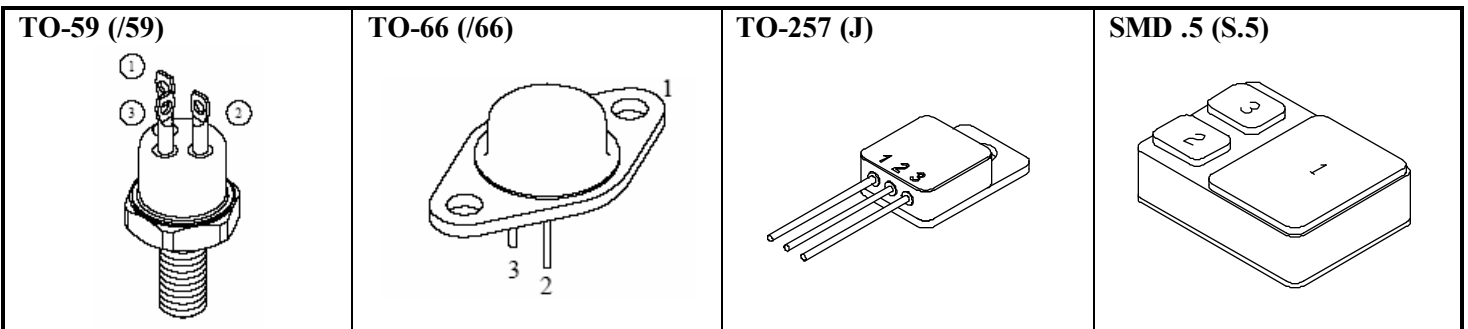
SFT5001

**5 AMPS
 125 Volts
 High Speed
 PNP Transistor**

Features:

- Radiation Tolerant
- Superior to JEDEC 2N5001 Series
- High Frequency, $f_T > 80\text{MHz}$
- Very Low Saturation
- Fast Switching, 130 ns Max $t(\text{on})$
- Designed for Complementary Use with SFT3997
- TX, TXV, S-Level Screening Available. Consult Factory.

Maximum Ratings	Symbol	Value	Units
Collector – Emitter Voltage	V_{CEO}	80	Volts
Collector – Base Voltage	V_{CBO}	125	Volts
Emitter – Base Voltage	V_{EBO}	7	Volts
Collector Current	I_{C}	5	Amps
Base Current	I_{B}	1	Amps
Total Power Dissipation @ $T_{\text{C}} = 100^{\circ}\text{C}$ Derate Above 100°C	P_{D}	30 0.3	Watts W/ $^{\circ}\text{C}$
Operating & Storage Temperature	$T_{\text{J}} \& T_{\text{STG}}$	-65 to +200	$^{\circ}\text{C}$
Maximum Thermal Resistance (Junction to Case)	$R_{\theta\text{JC}}$	3.33	$^{\circ}\text{C/W}$



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

DATA SHEET #: TR0099A

DOC



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SFT5001

Electrical Characteristics	Symbol	Min	Max	Units		
Collector – Emitter Blocking Voltage *	(I _C = 10 mA) BV_{CEO}	80	—	Volts		
Collector – Base Blocking Voltage	(I _C = 20 μA) BV_{CBO}	125	—	Volts		
Emitter – Base Blocking Voltage	(I _E = 20 μA) BV_{EBO}	7	—	Volts		
Collector Cutoff Current	(V _{CE} = 40 V) I_{CEO}	—	10	μA		
Collector Cutoff Current	(V _{CB} = 100 V) I_{CBO}	—	1.0	μA		
Emitter Cutoff Current	(V _{EB} = 6 V) I_{EBO}	—	1.0	μA		
DC Current Gain *	(I _C = 50 mA, V _{CE} = 5 V) (I _C = 1.0 A, V _{CE} = 5 V) (I _C = 5.0 A, V _{CE} = 5 V) h_{FE}	50 50 30	— — —			
Collector-Emitter Saturation Voltage *	(I _C = 1.0 A, I _B = 100 mA) (I _C = 5.0 A, I _B = 500 mA) V_{CE(SAT)}	— —	0.5 1.0	Volts		
Base-Emitter Saturation Voltage *	(I _C = 1.0 A, I _B = 100 mA) (I _C = 5.0 A, I _B = 500 mA) V_{BE(SAT)}	— —	0.9 1.2	Volts		
Current Gain – Bandwidth Product	V _{CE} = 5 V, I _C = 0.5 A, f = 10 MHz f_T	80	—	MHz		
Output Capacitance	V _{CB} = 10 V, I _E = 0 A, f = 1.0 MHz C_{ob}	—	75	pF		
Delay Time	(V _{CC} = 20 V, I _C = 1.0 A, V _{BE(off)} = 3.7 V, I _{B1} = I _{B2} = 100 mA, R _L = 20 Ω)	t_(on)	t_d	—	150	ns
Rise Time		t_r	—			
Storage Time		t_(off)	t_s	—	500	ns
Fall Time		t_f	—			

<p>NOTES:</p> <p>* Pulse Test: Pulse Width = 300μsec, Duty Cycle = 2%</p> <p><u>1/</u> For Ordering Information, Price, and Availability Contact Factory.</p> <p><u>2/</u> Screening per MIL-PRF-19500</p> <p><u>3/</u> For Package Outlines Contact Factory.</p>	<p><u>4/</u> Up and Down Bend Configurations are Available for ‘J’ (TO-257) Packages Only.</p> <p><u>5/</u> Optional Pin Out Configurations are Available for ‘J’ (TO-257) Packages Only.</p> <p><u>6/</u> Unless Otherwise Specified, All Electrical Characteristics @25°C.</p>
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<p>Available Part Numbers:</p> <p>SFT5001/59 SFT5001/66 SFT5001J SFT5001JUB SFT5001JDB SFT5001JR SFT5001JRUB SFT5001JRDB SFT5001S.5</p>
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PIN ASSIGNMENT (Standard)			
Package	Collector	Emitter	Base
TO-59 (/59)	Pin 1	Pin 2	Pin 3
TO-66 (/66)	Case	Pin 2	Pin 3
TO-257 (J)	Pin 1	Pin 2	Pin 3
SMD .5 (S.5)	Pin 1	Pin 2	Pin 3
PIN ASSIGNMENT (Optional)			
Package	Collector	Emitter	Base
TO-257 (JR)	Pin 2	Pin 3	Pin 1