



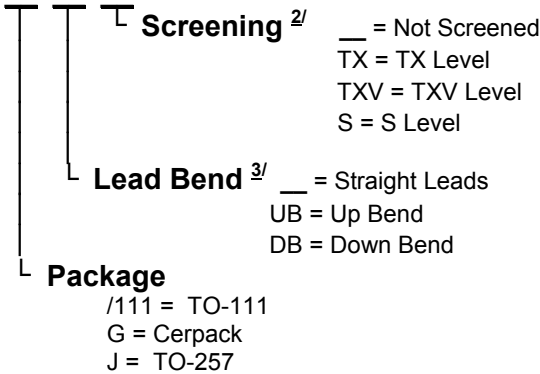
# Solid State Devices, Inc.

14701 Firestone Blvd \* La Mirada, Ca 90638  
Phone: (562) 404-4474 \* Fax: (562) 404-1773  
ssdi@ssdi-power.com \* www.ssdi-power.com

## DESIGNER'S DATA SHEET

### Part Number / Ordering Information <sup>1/</sup>

SFT3403



# SFT3403 Series

## 5 AMP NPN HIGH SPEED POWER TRANSISTOR 120 VOLTS

### Features:

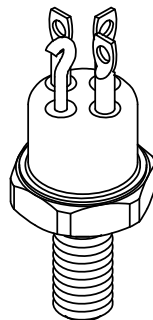
- $V_{CE0}$  250V typical
- Fast Switching
- High Frequency
- High Linear Gain, Low Saturation Voltage
- 200°C Operating Temperature
- High Current, High Voltage Version of the SFT3403
- TX, TXV, S-Level Screening Available - Consult Factory.

Maximum Ratings	Symbol	Value	Units
Collector – Base Voltage	$V_{CBO}$	150	Volts
Collector – Emitter Voltage	$V_{CEO}$	120	Volts
Emitter – Base Voltage	$V_{EBO}$	6.0	Volts
Continuous Collector Current	$I_C$	5	Amps
Base Current	$I_B$	1	Amps
Total Device Dissipation @ $T_c = 25^\circ C$ Derate Above 25°C	$P_D$	50 0.33	Watts W/°C
Operating & Storage Temperature	$T_J$ & $T_{STG}$	-65 to +200	°C
Maximum Thermal Resistance (Junction to Case)	$R_{\theta JC}$	3.0	°C/W

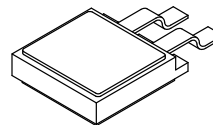
### NOTES:

- \* Pulse Test: Pulse Width = 300µsec, Duty Cycle = 2%
- 1/ For ordering information, price, and availability, contact factory.
- 2/ Screening based on MIL-PRF-19500. Screening flows available on request.
- 3/ Up and down bend configurations are available for 'J' (TO-257) packages only.
- 4/ Unless otherwise specified, all electrical characteristics @25°C.

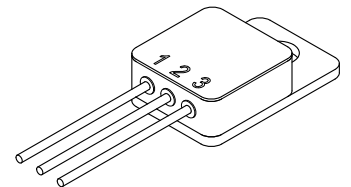
TO-111 (/111)



Cerpack (G)



TO-257 (J)



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

DATA SHEET #: TR0132A

DOC



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## SFT3403 series

Electrical Characteristics <sup>4/</sup>		Symbol	Min	Typ	Max	Units
Collector – Emitter Blocking Voltage	(I <sub>C</sub> = 50mA)	<b>BV<sub>CEO</sub></b>	120	250	—	Volts
Collector – Base Sustaining Voltage	(I <sub>C</sub> = 200μA)	<b>BV<sub>CBO</sub></b>	150	400	—	Volts
Emitter – Base Sustaining Voltage	(I <sub>E</sub> = 200μA)	<b>BV<sub>EBO</sub></b>	6	10	—	Volts
Collector Cutoff Current	(V <sub>CE</sub> = 80V, T <sub>C</sub> = 150°C)	<b>I<sub>CEO1</sub></b>	—	0.05	1	μA
		<b>I<sub>CEO2</sub></b>	—	0.1	10	mA
Collector Cutoff Current	(V <sub>CB</sub> = 80V, T <sub>C</sub> = 150°C)	<b>I<sub>CBO1</sub></b>	—	0.005	0.5	μA
		<b>I<sub>CBO2</sub></b>	—	1	25	μA
Emitter Cutoff Current	(V <sub>EB</sub> = 6V, T <sub>C</sub> = 150°C)	<b>I<sub>EBO1</sub></b>	—	0.001	1.0	μA
		<b>I<sub>EBO2</sub></b>	—	0.2	1.0	mA
DC Current Gain *	(I <sub>C</sub> = 2A, V <sub>CE</sub> = 5V) (I <sub>C</sub> = 200mA, V <sub>CE</sub> = 5V)	<b>h<sub>FE</sub></b>	40	100	-	
			-	100	-	
Collector-Emitter Saturation Voltage *	(I <sub>C</sub> = 2A, I <sub>B</sub> = 200mA) (I <sub>C</sub> = 5A, I <sub>B</sub> = 500mA)	<b>V<sub>CE(SAT)</sub></b>	—	0.16	0.75	Volts
			—	0.5	-	
Base-Emitter Saturation Voltage *	(I <sub>C</sub> = 2A, I <sub>B</sub> = 200mA) (I <sub>C</sub> = 5.0 A, I <sub>B</sub> = 500mA)	<b>V<sub>BE(SAT)</sub></b>	—	0.95	-	Volts
			—	1.15	-	
Current Gain – Bandwidth Product	V <sub>CE</sub> = 5V, I <sub>C</sub> = 0.5A, f = 10MHz	<b>f<sub>T</sub></b>	30	80	—	MHz
Output Capacitance	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0, f = 1.0MHz	<b>C<sub>ob</sub></b>	—	70	120	pF
On Time	(V <sub>CC</sub> = 30 V, I <sub>C</sub> = 5.0 A, V <sub>BE(off)</sub> = 3.7 V, I <sub>B1</sub> = I <sub>B2</sub> = 500 mA, R <sub>L</sub> = 6Ω)	<b>t<sub>(on)</sub></b>	—	40	-	ns
Off Time		<b>t<sub>(off)</sub></b>	—	1100	-	ns

**NOTES:**

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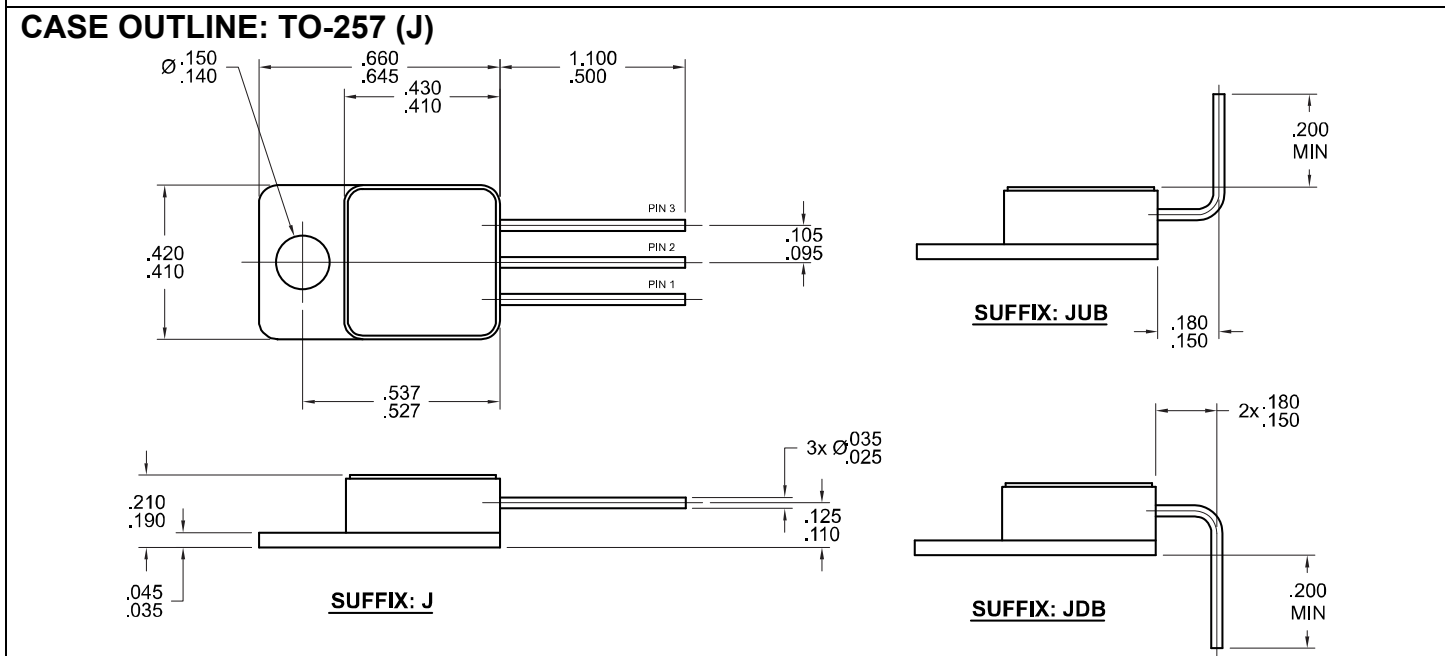
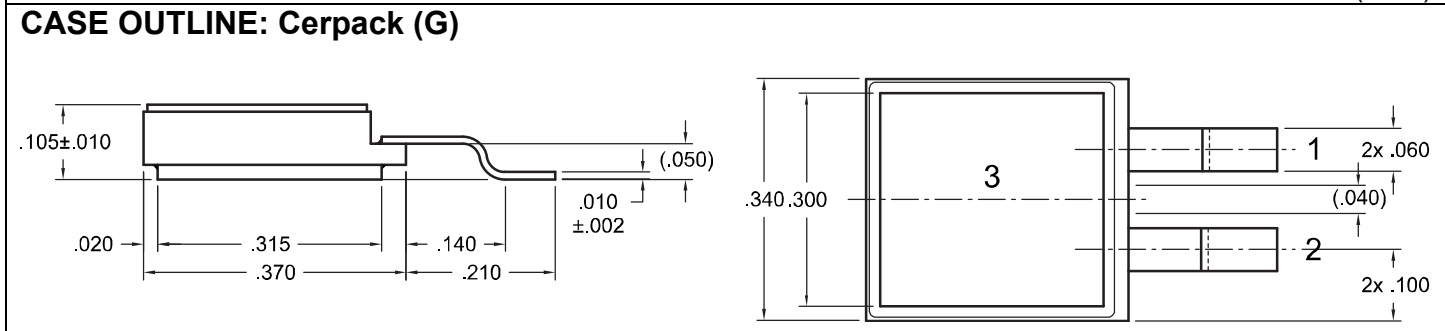
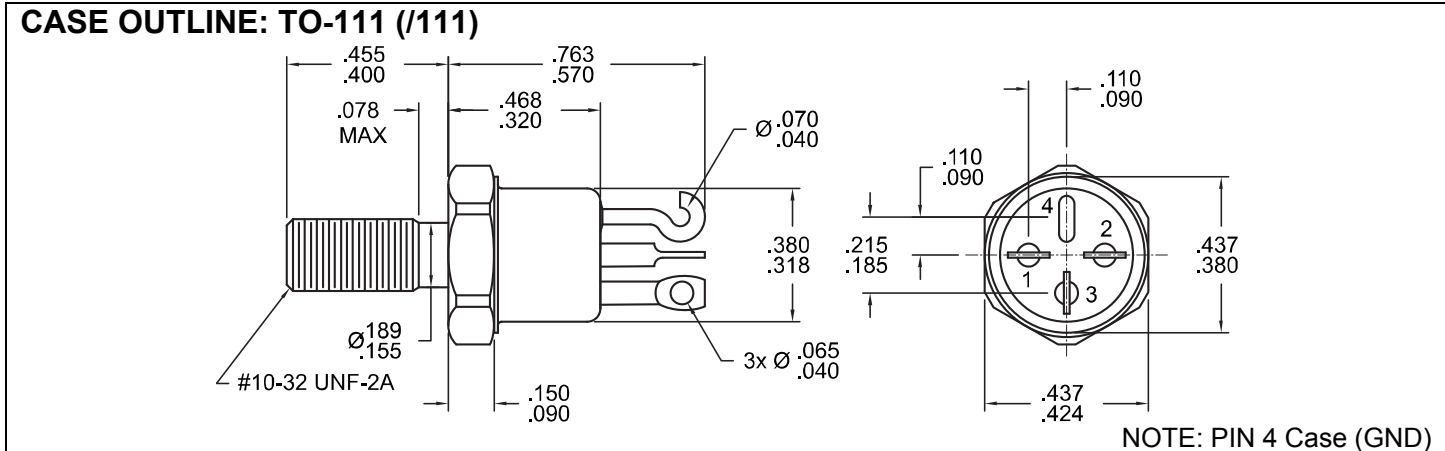
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# SFT3403 series



<b>Available Part Numbers:</b> SFT3403/111 SFT3403G SFT3403J, SFT3403JUB, SFT3403JDB	<b>PIN ASSIGNMENT</b>				
	<b>CODE</b>	<b>FUNCTION</b>	<b>PIN 1</b>	<b>PIN 2</b>	<b>PIN 3</b>
	-	Normal	Collector	Emitter	Base