PRELIMINARY

SFT5154J

SOLID STATE DEVICES, INC.
14830 Valley View Blvd * La Mirada, Ca 90638
Phone: (562) 404-7855 * Fax: (562) 404-1773

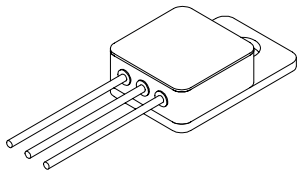
DESIGNER'S DATA SHEET

5 AMP 100 VOLTS NPN POWER TRANSISTOR

FEATURES

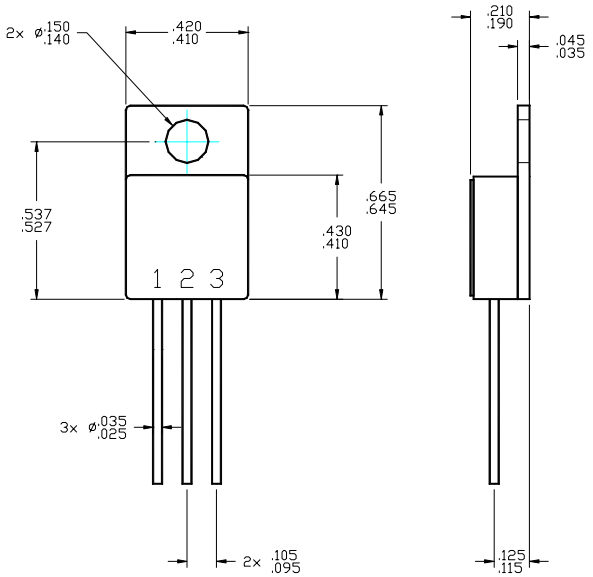
- **BVCER to 100 volts**
- **Very Low Saturation Voltage**
- **Very Low Leakage**
- **High Speed Switching**
- **High Gain from 50 mA to 5A**
- **Gold Eutectic Die Attach**
- **Glass Sealed Hermetic Package**
- **Superior Thermal and Power Dissipation Performance over JEDEC 2N5154 Series**

TO-257(J)



MAXIMUM RATINGS	SYMBOL	VALUE	UNITS
Collector-Base Voltage	V_{CBO}	100	Volts
Collector-Emitter Voltage	V_{CEO}	80	Volts
Emitter-Base Voltage	V_{EBO}	6.0	Volts
Continuous Collector Current	I_C	5.0	Amps
Base Current	I_B	2.5	Amps
Total Device Dissipation @ $T_C \leq 150^oC$ Derate above 150°C	P_D	30 0.6	W W/°C
Operating and Storage Temperature	T_J, T_{STG}	-65 to +200	°C
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.67	°C/W

CASE OUTLINE: TO-257 (Suffix 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 #: TR0012A

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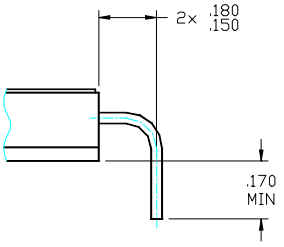
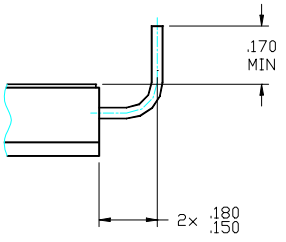
ELECTRICAL CHARACTERISTICS	SYMBOL	MIN	MAX	UNITS
Collector-Emitter Sustaining Voltage (I_C = 100mA, I_B = 0)	$V_{CEO(sus)}$	80	-	V
Collector Cutoff Current V_{CE} = 100V, V_{BE} = 0V V_{CE} = 60V, V_{BE} = -2.0V, T_C = 150°C	I_{CEX}	- -	1 500	mA µA
Collector Cutoff Current (V_{CEV} = 60V, V_{BE} = 0V)	I_{CES}	-	1	µA
Collector Cutoff Current, Open Base (V_{CE} = 40V, I_B = 0A)	I_{CEO}	-	50	µA
Emitter Cutoff Current (I_C = 0A) V_{EB} = 6.0V_{DC} V_{EB} = 5.0V_{DC}	I_{EBO}	- -	1.0 1.0	µA mA
DC Current Gain* (V_{CE} = 5V_{DC}) I_C = 5A I_C = 2.5A I_C = 2.5A, T_C = -55°C I_C = 50mA	h_{FE}	40 70 35 50	- 200 - -	
Collector-Emitter Saturation Voltage* I_C = 5A, I_B = 0.5A I_C = 2.5A, I_B = 0.25A	$V_{CE(SAT)}$	- -	1.5 0.75	V
Base-Emitter Voltage* (I_C = 2.5A, V_{CE} = 5V)	V_{BE}	-	1.45	V
Base-Emitter Saturation Voltage* I_C = 5A, I_B = 0.5A I_C = 2.5A, I_B = 0.25A	$V_{BE\ (SAT)}$	- -	2.2 1.45	V
Magnitude of Common Emitter Small-Signal Short-Circuit Forward Current Transfer Ratio (I_C = 0.5A, V_{CE} = 5V_{DC}, f = 20MHz)	h_{FE}	3.5	-	
Common Emitter Small-Signal Short-Circuit Forward Current Transfer Ratio (I_C = 100mA, V_{CE} = 5V_{DC}, f = 1kHz)	h_{FE}	50	-	
Collector - Base Capacitance (V_{CB} = 10V, I_E = 0A, f = 1MHz)	C_{CB}	-	250	pF

*** Pulse Test: Pulse Width = 300µsec, Duty Cycle = 1%**

OPTIONAL LEAD BEND CONFIGURATION



SUFIX JDB



SUFIX JUB

PIN ASSIGNMENT

CODE	FUNCTION	PIN 1	PIN 2	PIN 3
-	Normal	Collector	Emitter	Base
R	Reverse	Base	Emitter	Collector