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

SFT4100 Series

DESIGNER'S DATA SHEET

Part Number / Ordering Information [1/]

SFT4100 ___ ___

Screening [2/]
- ___ = Not Screen
- TX = TX Level
- TXV = TXV Level
- S = S Level

Package [3/]
- /3 = TO-3
- S1 = SMD1
- M = TO254

15 AMP
HIGH SPEED NPN TRANSISTOR
200 VOLTS

Features:
- Fast Switching, t_f = 60 nsec typ.
- Very Low Leakage and Saturation
- BVCEO 165 Volts Min
- High Linear Gain
- 200ºC Operating Temperature
- Gold Eutectic Die Attach
- Available in hermetic isolated and "hot case" power packages
- Higher Current Devices Available

Maximum Ratings	Symbol	Value	Units
Collector – Emitter Voltage	V_{CEO}	165	Volts
Collector – Base Voltage	V_{CBO}	250	Volts
Emitter – Base Voltage	V_{EBO}	7	Volts
Continues Collector Current	I_C	15	Amps
Base Current	I_B	3	Amps
Power Dissipation @ TC = 25ºC	P_D	120	W
Operating & Storage Temperature	Top & Tstg	-65 to +200	ºC
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	1.46	ºC/W

NOTES:

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

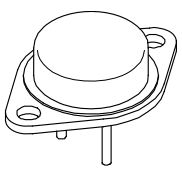
1/ For Ordering Information, Price, and Availability Contact Factory.

2/ Screening to MIL-PRF-19500

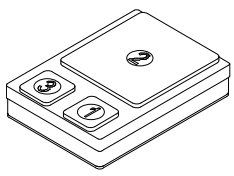
3/ For Package Outlines Contact Factory.

4/ Unless Otherwise Specified, All Electrical Characteristics @25ºC.

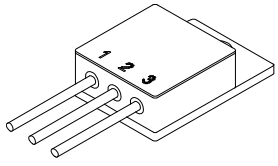
TO-3



SMD1



TO-254



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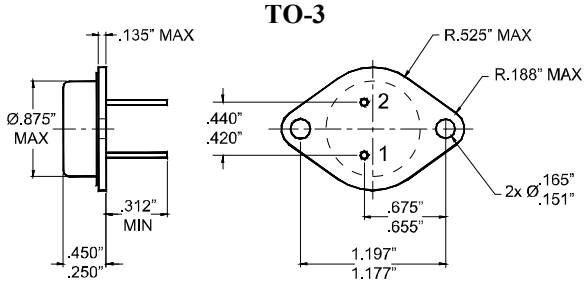
Electrical Characteristic [4]		Symbol	Min	Typ	Max	Units
Collector – Emitter Breakdown Voltage	I_C = 200mA	**BV_{CEO}**	165	200	—	Volts
Collector – Base Breakdown Voltage	I_C = 200µA	**BV_{CBO}**	-	250	—	Volts
Emitter – Base Breakdown Voltage	I_E = 50mA	**BV_{EBO}**	7	15	—	Volts
Collector – Cutoff Current	V_{CE} = 160 V	**I_{CEO}**	—	0.03	1000	uA
Collector – Cutoff Current	V_{CE} = 250 V, V_{EB} = 1.5 V V_{CE} =250V, V_{EB} =1.5V, T_C= 125C	**I_{CEX}**	—	0.01 1.0	1000 5000	uA
Emitter – Cutoff Current	V_{EB} = 5 V	**I_{EBO}**	—	0.01	1000	uA
DC Current Gain *	V_{CE} = 4V, I_C = 5A V_{CE} = 4V, I_C = 8A	**h_{FE}**	15 8	30 30	45 —	—
Collector – Emitter Saturation Voltage *	I_C = 5.0A, I_B = 500mA I_C = 8.0A, I_B = 1.0A	**$V_{CE(Sat)}$**	— —	0.25 0.35	1.2 1.6	Volts
Base – Emitter Saturation Voltage *	I_C = 8.0A, I_B = 1.0A	**$V_{BE(Sat)}$**	—	1.12	2.0	Volts
Current Gain Bandwidth Product	V_{CE} = 15V, I_C = 1.0A, f = 10MHz	**f_T**	8	20	—	MHz
Clamped $E_{S/B}$ Collector Current	V_{Clamp} = 200V, L = 500 uH		8			A
Safe Operating Area	V_{CE} = 30V, I_C = 4.0A, t = 1s V_{CE} = 135V, I_C = 0.15A, t= 1s	**SOA1** **SOA2**				
ON Time	V_{CC} = 150V, I_C = 8A, I_{B1} = I_{B2} = 1A	**t_{ON}**	—	100	1000	nsec
Storage Time		**t_S**	—	1200	1700	nsec
Fall Time		**t_f**	—	60	800	nsec

CASE OUTLINES:

TO-3



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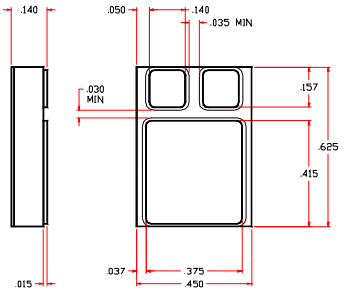

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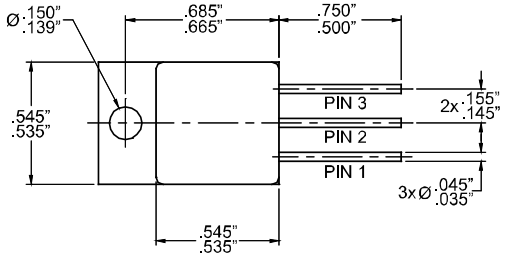

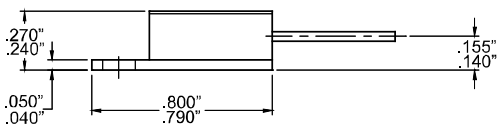

NOTE: All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.	**DATA SHEET #: TR0105B**	**DOC**