



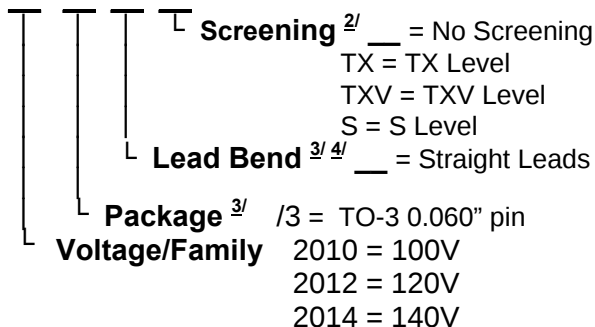
Solid State Devices, Inc.

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DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

SFT



SFT2010 thru SFT2014

200 AMP
100 – 140 Volt
High Energy
NPN Transistor

Features:

- $BV_{CBO} = 250 \text{ V MIN}$
- 600 Watts Power Dissipation
- Excellent SOA Curve
- E_s/b of 800mJ
- Gain of over 5 at 200A
- High Reliability Construction
- Planar Chip Construction with Low Leakage and Very Fast Switching
- TX, TXV, S-Level Screening Available^{2/} - Consult Factory

Maximum Ratings		Symbol	Value	Units
Collector – Emitter Voltage	SFT2010 SFT2012 SFT2014	V_{CEO}	100 120 140	Volts
Collector – Base Voltage		V_{CBO}	250	Volts
Emitter – Base Voltage		V_{EBO}	8	Volts
Collector Current		I_C	200	Amps
Base Current		I_B	75	Amps
Total Device Dissipation	$T_C = 50^\circ\text{C}$ Derate above 50°C	P_D	600 4	Watts W/ $^\circ\text{C}$
Operating & Storage Temperature		T_J & T_{STG}	-65 to +200	$^\circ\text{C}$
Maximum Thermal Resistance (Junction to Case)		$R_{\theta JC}$	0.25	$^\circ\text{C/W}$

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

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

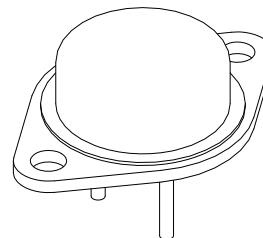
^{2/} Screening per MIL-PRF-19500.

^{3/} For Package Outlines Contact Factory.

^{4/} Up and Down Bend Configurations are Available for 'M' (TO-254) Packages Only.

^{5/} Unless Otherwise Specified, All Electrical Characteristics @25°C.

TO-3



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

DATA SHEET #: TR0108A

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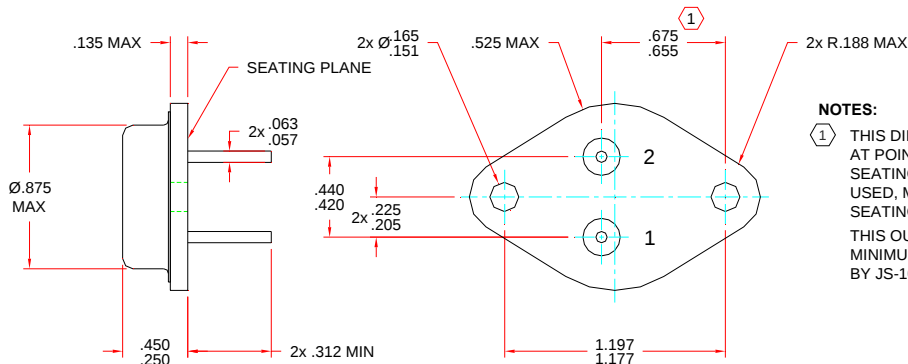
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SFT2010 thru SFT2014

Electrical Characteristics			Symbol	Min	Max	Units
Collector – Emitter Breakdown Voltage *	(I _C = 200 mA)	SFT2010	BV_{CEO}	100	—	Volts
		SFT2012		120		
		SFT2014		140		
Collector – Base Breakdown Voltage *	(I _C = 100μA)		BV_{CBO}	250	—	Volts
Emitter – Base Breakdown Voltage *	(I _E = 100μA)		BV_{EBO}	8	—	Volts
Collector Cutoff Current	(V _{CB} = 250 V)		I_{CBO}	—	10	μA
Emitter Cutoff Current	(V _{EB} = 7 V)		I_{EBO}	—	10	μA
DC Current Gain *	I _C = 10 A, V _{CE} = 2 V		h_{FE}	40	—	
	I _C = 100 A, V _{CE} = 5 V			30		
	I _C = 200 A, V _{CE} = 5 V			5		
Collector-Emitter Saturation Voltage *	(I _C = 120 A, I _B = 12 A)		V_{CE} (SAT)	—	2.0	Volts
	(I _C = 200 A, I _B = 30 A)			—	3.0	
Base-Emitter Saturation Voltage *	(I _C = 120 A, I _B = 12 A)		V_{BE} (SAT)	—	2.2	Volts
Current – Gain – Bandwidth Product	(I _C = 1.0 A, V _{CE} = 10 V, f = 10MHz)		f_T	30	—	Mhz
Output Capacitance	V _{CB} = 10 V, I _E = 0, f = 1.0MHz		C_{ob}	—	1200	pF
RB SOA	I _B = 1 A, R _{B1} = R _{B2} = 20 ohms V _{BE(off)} = 2.0 V, L = 1.0 mH		E_{s/b}	800	—	mJ
FB SOA	V _{CE} = 20 V, I _C = 30 A		I_{s/b}	1	—	sec
	V _{CE} = 100 V, I _C = 0.75 A			1	—	
On Time			t_(on)	—	800	ns
Storage Time	(V _{CC} = 60 V, I _C = 10 A)		t_s	—	1500	ns
Fall Time	I _{B1} = I _{B2} = 1.0 A)		t_f	—	400	ns



NOTES:

① THIS DIMENSION SHALL BE MEASURED AT POINTS .050 - .055" BELOW THE SEATING PLANE. WHEN GAGE IS NOT USED, MEASUREMENT WILL BE MADE AT SEATING PLANE.

THIS OUTLINE DOES NOT MEET THE MINIMUM CRITERIA ESTABLISHED BY JS-10 FOR REGISTRATION.

PIN ASSIGNMENT (Standard)

Package	Collector	Emitter	Base
TO-3 (/3)	Case	Pin 2	Pin 1

Available Part Numbers:

SFT2010/3
SFT2012/3
SFT2014/3

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