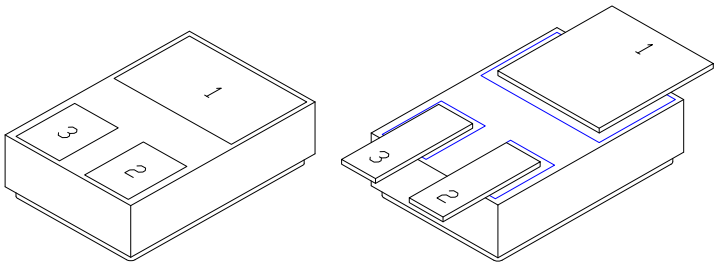
Solid State Devices, Inc.
14830 Valley View Blvd * La Mirada, Ca 90638
Phone: (562) 404-7855 * Fax: (562) 404-1773
ssdi@ssdi-power.com * www.ssdi-power.com

SFT4300S.22
SFT4300S.22L

DESIGNER'S DATA SHEET



SMD.22 SMD.22L

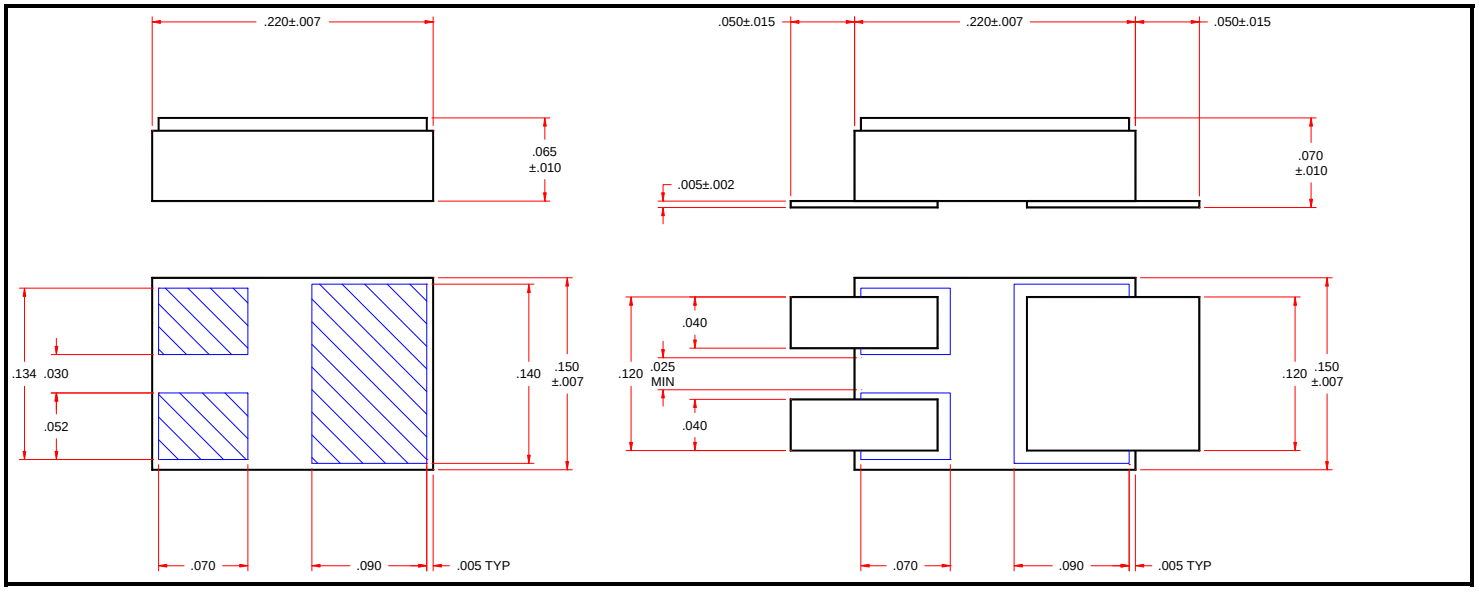
PIN 1= COLLECTOR; PIN 2= EMITTER; PIN 3= BASE

2 A, 150 Volts general purpose NPN Transistor

Features:
- Radiation tolerant
- Fast switching
- hermetic surface mount device with excellent thermal properties
- Available with lead extensions (SMD.22L)
- Complementary use with SFT5333S.22
- Available in Reverse Polarity
- TX, TXV, S-Level screening available

Maximum Ratings	Symbol	Value	Units
Collector – Emitter Voltage	V_{CEO}	80	Volts
Collector – Base Voltage	V_{CB}	150	Volts
Emitter - Base Voltage	V_{BE}	8	Volts
Continuous Collector Current **continuous** **peak**	I_C I_{Cmax}	2 5	Amps
Base Current	I_B	1	Amps
Power Dissipation @ TC = 25ºC **note 1** **Power Dissipation @ TA = 25ºC** **note 2**	P_D	15 1.0	W
Operating & Storage Temperature	Top & Tstg	-65 to +200	ºC
Maximum Thermal Resistance Junction to Case and to ambient	$R_{\theta JC}$ $R_{\theta JA}$	11.67 (typ 8) 175	ºC/W

Note1: Derated 85.7 mW/°C above Tc= 25°C
Note2: Derated 5.7 mW/°C above TA= 25°C



Solid State Devices, Inc.
14830 Valley View Blvd * La Mirada, Ca 90638
Phone: (562) 404-7855 * Fax: (562) 404-1773
ssdi@ssdi-power.com * www.ssdi-power.com

SFT4300S.22
SFT4300S.22L

Electrical Characteristic [4]		Symbol	Min	Typ	Max	Units
Collector – Emitter Sustaining Voltage	I_C = 30 mA	$\mathbf{BV_{CEO(sus)}}$	80	95	-	V
Collector – Base Breakdown Voltage	I_C = 0.2 mA	$\mathbf{BV_{CBO}}$	150	240	-	V
Emitter - Base Breakdown Voltage	I_E= 0.2 mA	$\mathbf{BV_{EBO}}$	8	9	-	V
Collector-Emitter Cutoff Current	V_{CE} = 40 V; I_B = 0	$\mathbf{I_{CEO}}$	—	0.01	5	uA
Collector-Base Cutoff Current	V_{CB} = 90 V; I_E = 0 V_{CB} = 90 V; I_E = 0; Ta= 100 ºC	$\mathbf{I_{CBO1}}$ $\mathbf{I_{CBO2}}$	- -	- -	1 75	uA
Emitter-Base Cutoff Current	V_{BE} = 6 V; I_C = 0	$\mathbf{I_{EBO}}$	—	0.01	1	uA
DC Current Gain	I_C = 1.0 A, V_{CE} = 5 V I_C = 2.0 A, V_{CE} = 5 V	$\mathbf{HFE_1}$ $\mathbf{HFE_2}$	50 50	- -	200 -	
	I_C=0.5A, V_{CE}=1V,Ta=-65ºC I_C=2.0A, V_{CE}=2V,Ta=-65ºC I_C=5.0A, V_{CE}=2V,Ta=-65ºC	$\mathbf{HFE_7}$ $\mathbf{HFE_8}$ $\mathbf{HFE_9}$	- - -	45 40 20	- - -	
Collector-Emitter Saturation Voltage	I_C = 1.0 A, I_B = 100 mA I_C = 2.0 A, I_B = 200 mA I_C = 5.0 A, I_B = 500 mA	$\mathbf{V_{CE(sat)1}}$ $\mathbf{V_{CE(sat)2}}$ $\mathbf{V_{CE(sat)3}}$	- - -	0.12 0.22 0.56	0.3 0.5 -	V
Collector-Base Saturation Voltage	I_C = 5.0 A, I_B = 500 mA	$\mathbf{V_{BE(sat)3}}$	-	1.1	-	V
Base-Emitter ON Voltage	I_C = 2.0 A, V_{CE} = 2 V	$\mathbf{V_{BE(on)}}$	-	0.83	1.2	V
Current Gain Bandwidth Product	I_C = 0.5A, V_{CE} = 5 V, f= 10 MHz	$\mathbf{f_T}$	80	120	-	MHz
Input Capacitance	V_{BE}= 8 V, I_C= 0, f= 1MHz	$\mathbf{C_{ib}}$	—	—	225	pF
Output Capacitance	V_{CB}= 30 V, I_E= 0, f= 1MHz	$\mathbf{C_{ob}}$	—	—	45	pF
Switching Times	V_{CC} = 20 Vdc; I_C = 1 A; $V_{EB(off)}$ = 3.7 V; I_{B1} = I_{B2}= 100 mA; R L= 20Ω	$\mathbf{t_{on}}$ $\mathbf{t_{off}}$	- -	0.06 0.85	0.13 1.5	us

NOTES:

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

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

2/ Screening per MIL-PRF-19500

3/ For Package Outlines Contact Factory.

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