



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, CA 90638
 Phone: (562) 404-7855 * Fax: (562) 404-1773
 ssdi@ssdi-power.com * www.ssdi-power.com

DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

SFT5094

SFT5096

Screening ^{2/} = No Screening

TX = TX Level

TXV = TXV Level

S = S Level

Package ^{3/} -4 = 4 Pin CLCC

/5 = TO-5

G = CERPACK

S.22 = SMD.22

SFT5094 and SFT5096 Series

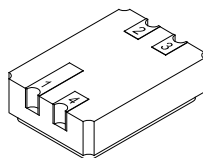
1 AMP, 500 Volts High Voltage PNP Transistor

Features:

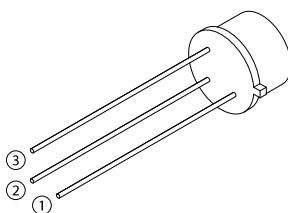
- BV_{CER} to 500 Volts
- Low Leakage at High Temperature
- High Linear Gain, Low Saturation Voltage
- 200°C Operating Temperature
- Gold Eutectic Die Attach
- TX, TXV, S-Level Screening Available
- Designed for Complementary Use with SFT5013 thru SFT5014
- Replacement for 2N3743, 2N5094 and 2N5096 with Lower Thermal Resistance
- Available with TO-5, Cerpack, CLCC, and SMD.22 Cases

Maximum Ratings ^{4/}	Symbol	SFT5094	SFT5096	Units
Collector – Emitter Voltage ($R_{BE} = 1k\Omega$)	V_{CEO}	350	400	Volts
	V_{CER}	450	500	Volts
Collector – Base Voltage	V_{CBO}	450	500	Volts
Emitter – Base Voltage	V_{EBO}	6		Volts
Collector Current	I_C	1.0		Amps
Base Current	I_B	0.5		Amps
Total Power Dissipation ($T_C = 25^\circ C$)	P_D	1.0		Watts
Derate above $T_C = 25^\circ C$		0.4		Watts
		5.7		mW /°C
Operating & Storage Temperature	T_J & T_{STG}	-65 to +200		°C
Maximum Thermal Resistance (Junction to Case)	$R_{\theta JC}$	4 Pin CLCC	175	°C/W
		TO-5	30	°C/W
		CERPACK	9	°C/W
		SMD.22	9	°C/W
Maximum Thermal Resistance (Junction to Ambient)	$R_{\theta JA}$	4 Pin CLCC	440	°C/W
		TO-5	---	°C/W
		CERPACK	440	°C/W
		SMD.22	440	°C/W

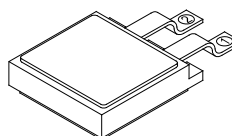
4 Pin CLCC (-4)



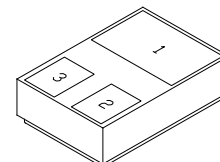
TO-5 (/5)



CERPACK (G)



SMD.22 (S.22)



NOTES: ^{1/} For Ordering Information, Price, Operating Curves, and Availability Contact Factory.

^{2/} Screening based on MIL-PRF-19500. Screening flows available on request.

^{3/} For Package Outlines, See Figure 1.

^{4/} Unless Otherwise Specified, Maximum Ratings/Electrical Characteristics at 25°C.

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

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SFT5094 and SFT5096 Series

Electrical Characteristics ^{4/}	Symbol	Min	Max	Units
Collector – Emitter Breakdown Voltage * <div>(I_C = 5 mA) (I_C = 100 μA, R_{BE} = 1k Ω)</div>	BV_{CEO} BV_{CER}	SFT5094 350 450	SFT5096 400 500	— — Volts
Collector – Base Breakdown Voltage * (I _C = 100 μA)	BV_{CBO}	450	500	— Volts
Emitter – Base Breakdown Voltage (I _E = 50 μA)	BV_{EBO}	6	—	Volts
Collector Cutoff Current (V _{CB} = Rated, T _A = 25°C) (V _{CB} = Rated, T _A = 100°C)	I_{CB01} I_{CB02}	— —	1.0 50	μA
Emitter Cutoff Current (V _{EB} = 6 V)	I_{EBO}	—	1.0	μA
DC Current Gain * (I _C = 1 mA, V _{CE} = 10 V) (I _C = 25 mA, V _{CE} = 10 V) (I _C = 100 mA, V _{CE} = 10 V)	H_{FE}	20 40 20	250 300 250	
Collector-Emitter Saturation Voltage * (I _C = 25 mA, I _B = 2.5 mA)	V_{CE (SAT)}	—	500	mV
Base-Emitter Saturation Voltage (I _C = 25 mA, I _B = 2.5 mA)	V_{BE (SAT)}	—	1.0	Volts
Current Gain Bandwidth Product * (I _C = 10 mA, V _{CE} = 10 V, f = 10 MHz)	f_T	25	—	MHz
Output Capacitance V _{CB} = 20 V, I _E = 0 A, f = 1.0MHz	C_{ob}	—	10	pF
Turn on Delay Time Rise Time Storage Time Fall Time V _{CC} = 100 V I _C = 100 mA I _{B1} = I _{B2} = 10 mA	T_d T_r T_s t_f	— — — —	500 1200 2.0 500	ns ns μs ns

Notes: * Pulse Test: Pulse Width = 300 µs. Duty Cycle = 2%.

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3/ For Package Outlines, See Figure 1.

4/ Unless Otherwise Specified, Maximum Ratings/Electrical Characteristics at 25°C.

PIN ASSIGNMENT (Standard)

Package	Collector	Emitter	Base
4 Pin CLCC (-4)	Pin 1	Pin 2	Pin 3
TO-5 (/5)	Pin 3	Pin 1	Pin 2
CERPACK (G)	CASE	Pin 1	Pin 2
SMD.22 (S.22)	Pin 1	Pin 2	Pin 3

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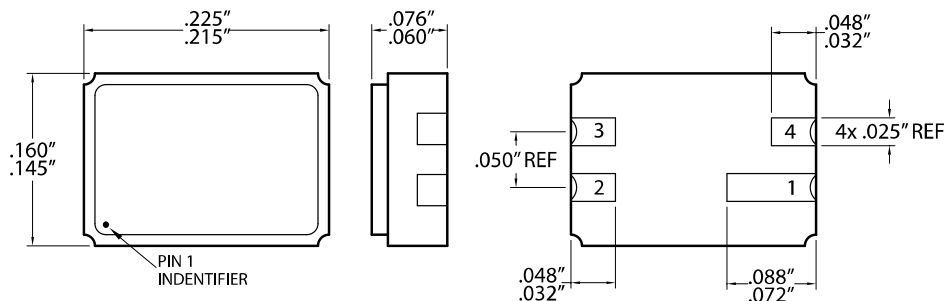
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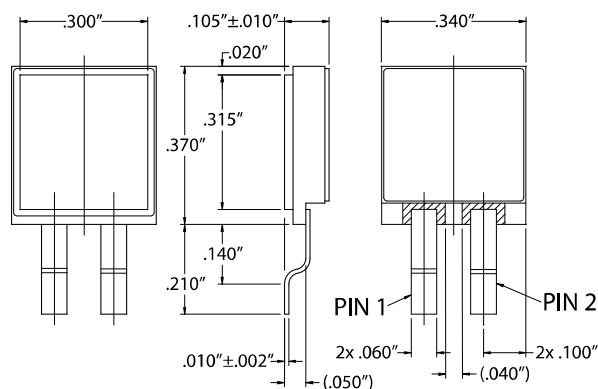
SFT5094 and SFT5096 Series

FIGURE 1 – CASE OUTLINES

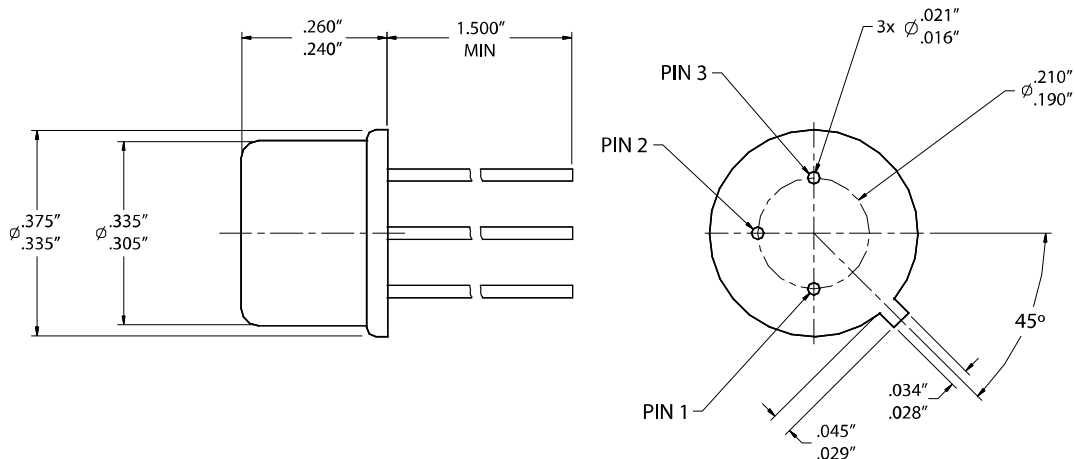
4 Pin CLCC (-4):



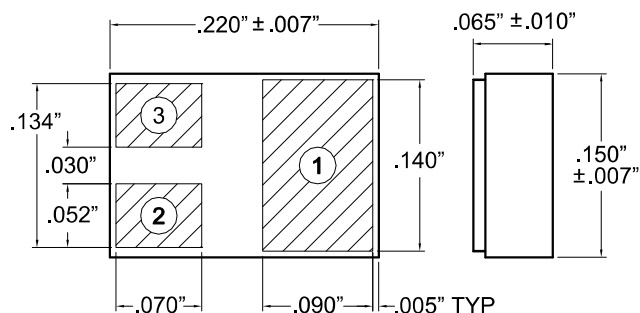
CERPACK (G):



TO-5 (/5):



SMD.22 (S.22):



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