



Solid State Devices, Inc.

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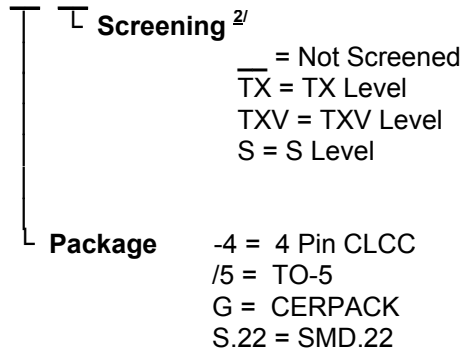
SFT5095 and SFT5097 Series

1 AMP High Voltage NPN Transistor 500-600 Volts

DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

SFT5095
SFT5097



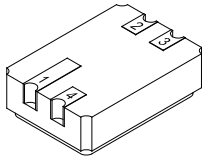
Features:

- V_{CEO} to 450 Volts
- Low saturation voltage
- Very low leakage
- 200°C operating temperature
- Gold eutectic die attach
- Designed for complementary use with 2N5094 and 2N5096
- Available with TO-5, Cerpack, CLCC, and SMD.22 Cases
- TX, TXV, and S Level Screening Available

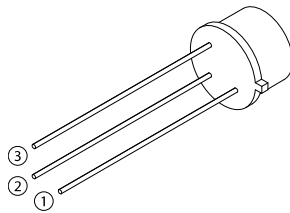
Maximum Ratings ^{3/}

	Symbol	SFT5095	SFT5097	Units
Collector – Emitter Voltage ($R_{BE} = 1k\Omega$)	V_{CEO}	400	450	Volts
	V_{CER}	500	600	Volts
Collector – Base Voltage	V_{CBO}	500	600	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 @ $T_C = 100^\circ C$ Derate above 100°C	P_D	2.0		Watts
		20		
Operating & Storage Temperature	T_J & T_{STG}	-65 to +200		°C
Thermal Resistance (Junction to Case)	4 Pin CLCC	$R_{\theta JA}$	175	°C/W
	TO-5	$R_{\theta JC}$	37.5	
	CERPACK	$R_{\theta JC}$	9	
	SMD.22	$R_{\theta JC}$	9	

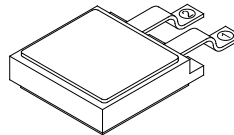
4 Pin CLCC (-4)



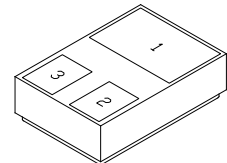
TO-5 (/5)



CERPACK (G)



SMD.22 (S22)



- 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/} 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.

DATA SHEET #: TR0118A

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**SFT5095 and SFT5097
Series**

Electrical Characteristics ^{3/}		Symbol	Min	Max	Units
Collector – Emitter Breakdown Voltage* (I _C = 50 mA)	SFT5095 SFT5097	BV_{CEO}	400 450	— —	Volts
Collector – Emitter Breakdown Voltage* (I _C = 100 μA, R _{BE} = 1K Ohms)	SFT5095 SFT5097	BV_{CER}	500 600	— —	Volts
Collector – Base Breakdown Voltage (I _C = 100 μA)	SFT5095 SFT5097	BV_{CBO}	500 600	— —	Volts
Emitter – Base Breakdown Voltage (I _E = 20 μA)		BV_{EBO}	6	—	Volts
Collector Cutoff Current	SFT5095 V _{CB} = 400V SFT5097 V _{CB} = 500V	I_{CBO}	—	500	nA
Emitter Cutoff Current	(V _{EB} = 4 V)	I_{EBO}	—	250	nA
DC Current Gain*	(I _C = 1 mA, V _{CE} = 5 V) (I _C = 25 mA, V _{CE} = 5 V) (I _C = 100 mA, V _{CE} = 10 V)	H_{FE}	25 50 15	250 300 250	
Collector-Emitter Saturation Voltage* (I _C = 25 mA, I _B = 2.5 mA)		V_{CE(SAT)}	—	500	mV
Base-Emitter Voltage	(I _C = 25 mA, V _{CE} = 5 V)	V_{BE(ON)}	—	1.0	Volts
Current Gain Bandwidth Product* (I _C = 50 mA, V _{CE} = 10 V, f = 20 MHz)		f_T	25	—	MHz
Output Capacitance	V _{CB} = 15 V, I _E = 0 A, f = 2.0MHz	C_{ob}	—	15	pF

Electrical Characteristics ^{3/}		Symbol	Typical	Units
Delay Time	V _{CC} = 125 V I _C = 100 mA I _{B1} = I _{B2} = 10 mA	t_d	50	ns
Rise Time		t_r	100	ns
Storage Time		t_s	1.5	μs
Fall Time		t_f	300	ns

Notes: * Pulse Test: Pulse Width = 300 μs. Duty Cycle = 2%.
 1/ For ordering information, price, operating curves, and availability - contact factory.
 2/ Screening based on MIL-PRF-19500. Screening flows available on request.
 3/ 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 (/15)	Pin 3	Pin 1	Pin 2
CERPACK (G)	CASE	Pin 1	Pin 2
SMD.22	Pin 1	Pin 2	Pin 3



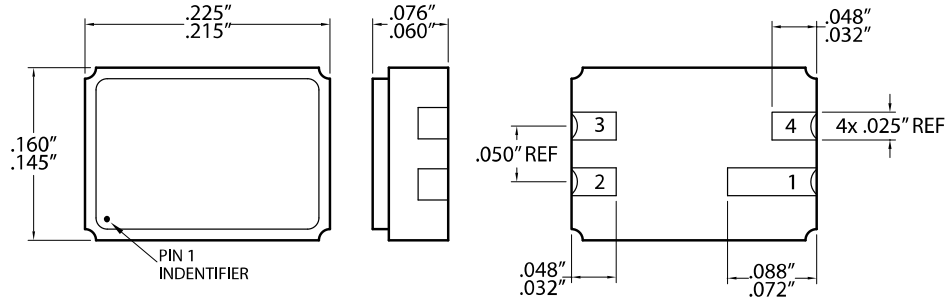
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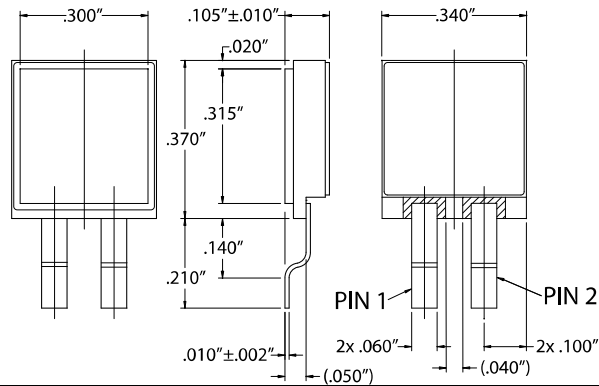
**SFT5095 and SFT5097
 Series**

FIGURE 1 – CASE OUTLINES

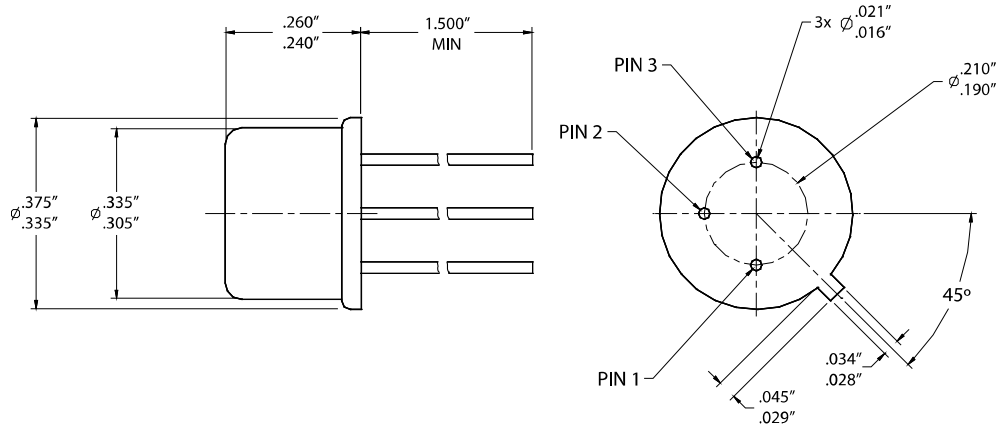
4 Pin CLCC (-4):



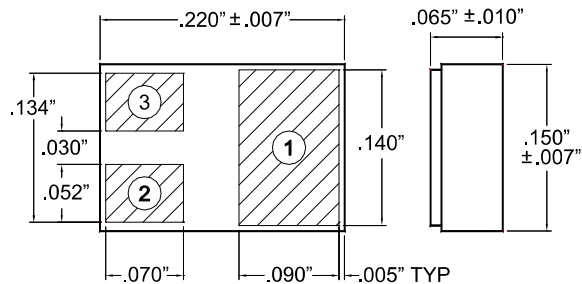
CERPACK (G):



TO-5 (I5):



SMD.22 (S.22):



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