



PRELIMINARY

SFT5321/23-28D

# SOLID STATE DEVICES, INC

14849 Firestone Boulevard · La Mirada, CA 90638  
Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424

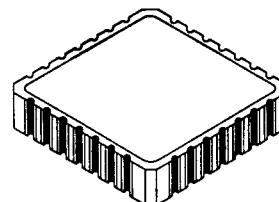
## Designer's Data Sheet

### FEATURES:

- Radiation Tolerant
- Eutectic Die Attach
- Hermetic Package
- TX, TXV and Space Levels Available

**2 AMP NPN - 2 AMP PNP  
75 VOLT NPN - 75 VOLT PNP  
NPN AND PNP BIPOLAR  
COMPLEMENTARY TRANSISTOR**

28 PIN CLCC



MAXIMUM RATINGS CHARACTERISTIC	SYMBOL	VALUE		UNIT
		NPN	PNP	
Collector-Emitter Voltage	V <sub>CEO</sub>	50	50	V
Collector-Base Voltage	V <sub>CBO</sub>	75	75	V
Emitter-Base Voltage	V <sub>EBO</sub>	5	5	V
Collector Current	I <sub>C</sub>	2	2	A
Base Current	I <sub>B</sub>	1.0	1.0	A
Total Device Dissipation @ TC= 25°C, Each die	P <sub>D</sub>	7.8		W
Total Device Dissipation Derating, each die	P <sub>D</sub> /T <sub>case</sub>	.062		Watt/deg C
Operating and Storage Temperature	Top & Tstj	-55 to +150		°C
Thermal Resistance, Junction to Case, each die	R <sub>θJC</sub>	16		°C/W

### PACKAGE OUTLINE: 28 PIN CLCC

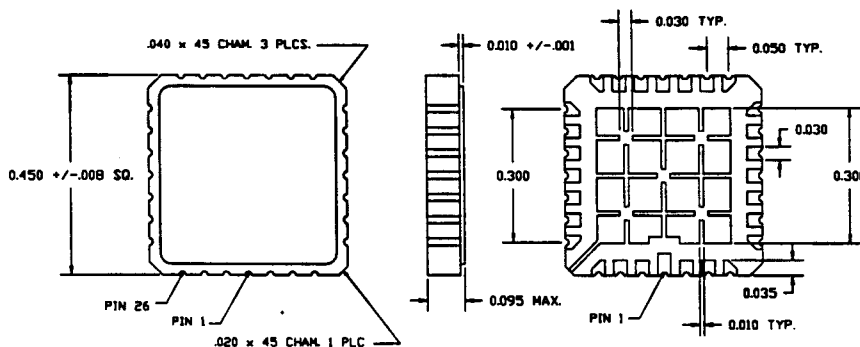
#### PIN OUT:

##### PNP:

PINS: 2-6 COLLECTOR  
PINS: 8 BASE  
PINS: 9-14 EMITTER

##### NPN:

PINS: 16-21 EMITTER  
PINS: 22 BASE  
PINS: 24-28 COLLECTOR



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

DATA SHEET #: XP00010 A

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ELECTRICAL CHARACTERISTICS	SYMBOL	PNP		NPN		UNIT
		MIN	MAX	MIN	MAX	
<b>RATING</b>						
Collector-Emitter Sustain Breakdown Voltage) (IC= .1A, IB= 0)	<b>BVCEO</b>	<b>50</b>		<b>50</b>		<b>V</b>
Collector Cutoff Current (VCE=75V, VBE (off) = 1.5V)	<b>ICEX</b>		<b>100</b>		<b>100</b>	<b>uA</b>
(VCE= 45V, VBE(off)= 1.5V, 150 deg.C)	<b>ICEX</b>		<b>5</b>		<b>5</b>	<b>mA</b>
Emitter Cutoff Current NPN and PNP:(VEB = 5 Vdc)	<b>IEBO</b>		<b>100</b>		<b>100</b>	<b>uA</b>
DC Current Gain IC= 0.5 Adc, VCE=4 Vdc	<b>HFE</b>	<b>40</b>	<b>300</b>	<b>40</b>	<b>250</b>	
Collector -Emitter Saturation Voltage (IC=500mA, IB =50mA)	<b>VCE(SAT)</b>		<b>1.2</b>		<b>0.8</b>	<b>V</b>
Base-Emitter Voltage, VBE ( VCE= 4V, IC=500mA)	<b>VBE(ON)</b>		<b>1.4</b>		<b>1.4</b>	<b>V</b>
Common-Emitter Small-Signal-Circuit Foward_circuit Transfer ratio (VCE= 4V, IC= 50mA, f=10MHz)	<b>hfe1</b>	<b>5</b>		<b>5</b>		
Delay Time Rise Time	VCC= 30 Vdc IC= 500 mAdc IB1=IB2=50mA	<b>ton</b>	<b>100</b>		<b>80</b>	<b>nsec</b>
Storage Time Fall Time		<b>toff</b>	<b>1000</b>		<b>800</b>	<b>nsec</b>

For thermal derating curves and other characteristic curves please contact SSDI Marketing Department.