

SOLID STATE DEVICES, INC.

14005 Stage Road * Santa Fe Springs, Ca 90670
Phone: (562) 404-4474 * Fax: (562) 404-1773

DESIGNER'S DATA SHEET

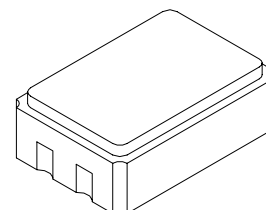
FEATURES:

- **BVCER to 1000 volts**
- **Very Low Saturation Voltage**
- **Very Low Leakage**
- **High Gain from 20 mA to 250mA**
- **Gold Eutectic Die Attach**
- **Superior Performance over JEDEC 2N5010-15 Series**
- **High Speed Switching $t_f = 0.4\mu s$ TYP**

SFT8600/4

**1 AMP
1000 VOLTS
NPN TRANSISTOR**

CLCC-4



MAXIMUM RATINGS	SYMBOL	VALUE	UNITS
Collector-Emitter Voltage ($R_{BE} = 1k\Omega$)	V_{CEO} V_{CER}	400 1000	Volts
Collector-Base Voltage	V_{CBO}	1000	Volts
Emitter-Base Voltage	V_{EBO}	6	Volts
Collector Current	I_C	1	Amps
Base Current	I_B	100	mA
Total Device Dissipation @ $T_C = 25^\circ C$ @ $T_A = 25^\circ C$ Derate above @ $T_C = 25^\circ C$	P_D	1.0 0.4 5.7	W W mW/ $^\circ C$
Operating and Storage Temperature	T_J, T_{STJ}	-65 to +200	$^\circ C$
Thermal Resistance, Junction to Case Junction to Ambient	$R_{\theta JC}$	175 440	$^\circ C/W$

ELECTRICAL CHARACTERISTICS	SYMBOL	MIN	MAX	UNITS
Collector-Emitter Breakdown Voltage ($I_C = 10\text{mA}_{dc}$) ($I_C = 20\mu\text{A}_{dc}$, $R_{BE} = 1\text{k}\Omega$)	BV_{CEO} BV_{CER}	4 0 0 1 0 0 0	-	V
Collector-Base Breakdown Voltage ($I_C = 20\mu\text{A}_{dc}$)	BV_{CBO}	1 0 0 0	-	V
Emitter-Base Breakdown Voltage ($I_E = 20\mu\text{A}_{dc}$)	BV_{EBO}	6	-	V
Collector Cutoff Current ($V_{CB} = 800\text{V}_{dc}$)	I_{CBO}	-	1 0	μA

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

DATA SHEET #: TR0003B

SFT8600/4

PRELIMINARY



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ELECTRICAL CHARACTERISTICS		SYMBOL	MIN	MAX	UNITS
Collector Cutoff Current ($V_{CE} = 400V_{DC}$)		I_{CEO}	-	10	μA
Emitter Cutoff Current ($V_{EB} = 4V_{DC}$)		I_{EBO}	-	1	μA
DC Current Gain * ($I_C = 5mA_{DC}$, $V_{CE} = 5V_{DC}$) ($I_C = 10mA_{DC}$, $V_{CE} = 5V_{DC}$) ($I_C = 100mA_{DC}$, $V_{CE} = 5V_{DC}$) ($I_C = 250mA_{DC}$, $V_{CE} = 5V_{DC}$)		h_{FE}	30 40 20 15	200	
Collector-Emitter Saturation Voltage * ($I_C = 20mA_{DC}$, $I_B = 2mA_{DC}$) ($I_C = 100mA_{DC}$, $I_B = 10mA_{DC}$)		$V_{CE(SAT)}$		0.3 0.5	V_{DC}
Base-Emitter Saturation Voltage * ($I_C = 20mA_{DC}$, $I_B = 2mA_{DC}$) ($I_C = 100mA_{DC}$, $I_B = 10mA_{DC}$)		$V_{BE(SET)}$	-	0.8 1.0	V_{DC}
Current Gain Bandwidth Product ($I_C = 100mA_{DC}$, $V_{CE} = 10V_{DC}$, $f = 10MHz$)		f_T	8	-	MHz
Output Capacitance ($V_{CB} = 20V_{DC}$, $I_E = 0A_{DC}$, $f = 1.0MHz$)		C_{ob}	-	15	pf
Delay Time Rise Time Storage Time Fall Time	($V_{CC} = 125V_{DC}$, $I_C = 100mA_{DC}$, $I_{B1} = 20mA_{DC}$, $I_{B2} = 40mA_{DC}$)	t_d t_r t_s t_f	-	50 150 3 800	nsec nsec μsec nsec

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

CASE OUTLINE: CLCC-4

PIN 1: COLLECTOR
PIN 2: EMITTER
PIN 3: BASE
PIN 4: N/C

