



PRELIMINARY

SFT8600/4

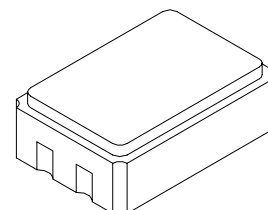
SOLID STATE DEVICES, INC.

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

**1 AMP
1000 VOLTS
NPN TRANSISTOR**

DESIGNER'S DATA SHEET

CLCC-4



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

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 @ $T_C = 25^\circ C$ Derate above @ $T_C = 25^\circ C$ @ $T_A = 25^\circ C$	P_D	1.0 0.4 5.7	W W mW/°C
Operating and Storage Temperature	T_J, T_{STJ}	-65 to +200	°C
Thermal Resistance, Junction to Case Junction to Ambient	$R_{\theta JC}$	175 440	°C/W

ELECTRICAL CHARACTERISTICS	SYMBOL	MIN	MAX	UNITS
Collector-Emitter Breakdown Voltage ($I_C = 10mA_{dc}$) ($I_C = 20\mu A_{dc}, R_{BE} = 1k\Omega$)	BV_{CEO} BV_{CER}	400 1000	-	V
Collector-Base Breakdown Voltage ($I_C = 20\mu A_{dc}$)	BV_{CBO}	1000	-	V
Emitter-Base Breakdown Voltage ($I_E = 20\mu A_{dc}$)	BV_{EBO}	6	-	V
Collector Cutoff Current ($V_{CB} = 800V_{dc}$)	I_{CBO}	-	10	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

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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	($V_{CC} = 125V_{DC},$ $I_C = 100mA_{DC},$ $I_{B1} = 20mA_{DC},$ $I_{B2} = 40mA_{DC}$)	t_d	-	50	nsec
Rise Time		t_r	-	150	nsec
Storage Time		t_s	-	3	μsec
Fall Time		t_f	-	800	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**

