



Solid State Devices, Inc.

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SFT6800/59

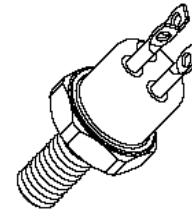
2 AMP 500 VOLTS NPN TRANSISTOR

DESIGNER'S DATA SHEET

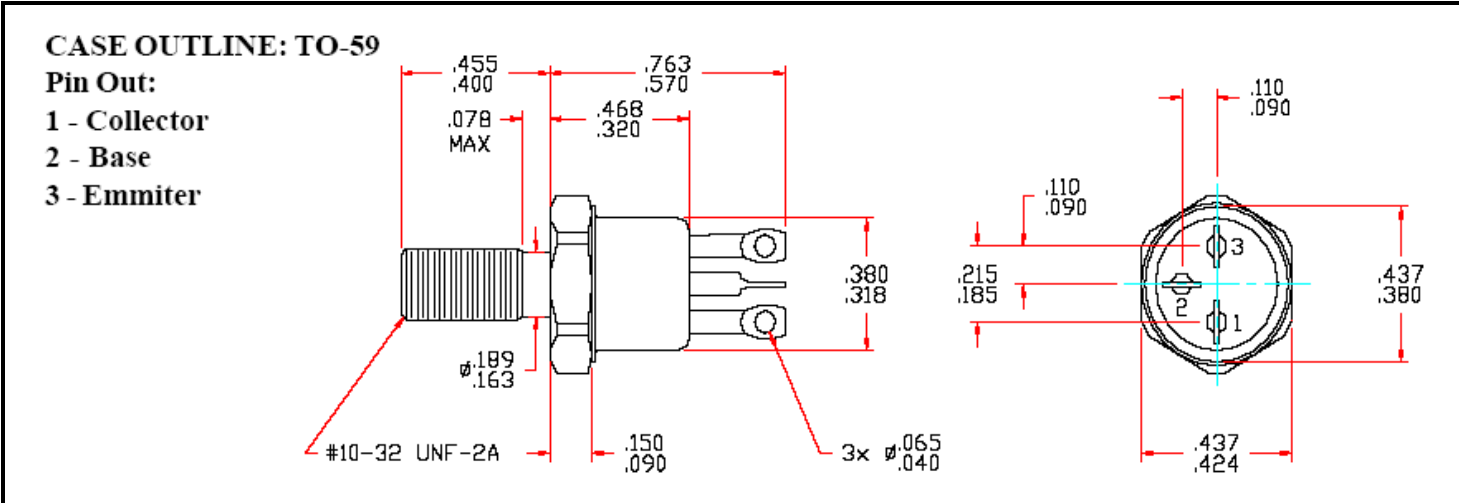
FEATURES:

- V_{CEO} TO 400 V
- Fast Switching
- Very Low Leakage
- Low Saturation Voltage
- 200°C Operating, Gold Eutectic Die Attach
- Designed for Complementary Use with SFT1192

TO-59



MAXIMUM RATINGS	Symbol	Value	Units
Collector – Emitter Voltage	V_{CEO}	400	Volts
Collector – Base Voltage	V_{CBO}	500	Volts
Emitter – Base Voltage	V_{EBO}	10	Volts
Collector Current	I_C	2	Amps
Base Current	I_B	0.5	Amps
Total Device Dissipation @ $T_C = 100^\circ\text{C}$ Derate above 25°C	P_D	20 133	W mW/°C
Operating and Storage Temperature Range	$T_{OP} \ \& \ T_{STG}$	-65 to +200	°C
Thermal Resistance, Junction to Case	$R_{\theta JC}$	7.5	°C/W



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

DATA SHEET #: TR0009E

DOC



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ELECTRICAL CHARACTERISTICS		Symbol	Min	Max	Units
Collector – Emitter Breakdown Voltage ($I_C = 20 \text{ mA}$)		BV_{CEO}	400	—	V
Collector – Base Breakdown Voltage ($I_C = 100 \mu A_{DC}$)		BV_{CBO}	500	—	V
Emitter – Base Breakdown Voltage ($I_E = 20 \mu A_{DC}$)		BV_{EBO}	10	—	V
Collector Cutoff Current ($V_{CB} = 400 V_{DC}$)		I_{CBO}	—	200	nA
Collector Cutoff Current ($V_{CE} = 400 V_{DC}, V_{EB} = 1.5 V_{DC}$)		I_{CEV}	—	200	nA
Emitter Cutoff Current ($V_{EB} = 6 V_{DC}$)		I_{EBO}	—	200	nA
DC Current Gain* ($V_{CE} = 5 V_{DC}$)		H_{FE}	($I_C = 50 \text{ mA}_{DC}$) 50	—	
			($I_C = 500 \text{ mA}_{DC}$) 40	—	
			($I_C = 1.0 \text{ A}_{DC}$) 15	—	
Collector – Emitter Saturation Voltage* ($I_C = 500 \text{ mA}_{DC}, I_B = 50 \text{ mA}_{DC}$)		$V_{CE(SAT)}$	—	500	mV _{DC}
Base – Emitter Saturation Voltage* ($I_C = 500 \text{ mA}_{DC}, I_B = 50 \text{ mA}_{DC}$)		$V_{BE(SAT)}$	—	1.0	V _{DC}
Current Gain Bandwidth Product ($I_C = 50 \text{ mA}_{DC}, V_{CE} = 10 V_{DC}, f = 20 \text{ MHz}$)		f_T	25	—	MHz
Output Capacitance ($V_{CB} = 30 V_{DC}, I_E = 0 \text{ A}_{DC}, f = 2.0 \text{ MHz}$)		C_{obo}	—	40	pf
Turn On Time	($V_{CC} = 330 V_{DC}, I_C = 500 \text{ mA}_{DC},$ $I_{B1} = I_{B2} = 100 \text{ mA}_{DC}$ $R_{B1} = R_{B2} = 330 \Omega$)	$t_{(on)}$	—	700	ns
Turn Off Time		$t_{(off)}$	—	2000	ns

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