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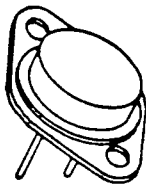
SFT1002 AND SFT1004
100 AMP
HIGH SPEED NPN TRANSISTOR
250 VOLTS



14830 Valley View Avenue
 La Mirada, California 90638
 (213) 921-9660
 TWX 910-583-4807
 FAX 213-921-2396

CASE STYLE R

TO-3 WITH .060 PINS



FEATURES

- RADIATION TOLERANT
- FAST SWITCHING
- HIGH FREQUENCY, 80 MHZ TYPICAL
- BVCEO 150 VOLTS MIN.
- HIGH LINEAR GAIN
- LOW LEAKAGE AND SATURATION VOLTAGE
- 200°C OPERATING, GOLD EUTECTIC DIE ATTACH
- DESIGNED FOR COMPLEMENTARY USE WITH SFT1001 AND SFT1003

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector - Emitter Voltage	V_{CEO}	150	Volts
Collector - Base Voltage	V_{CBO}	250	Volts
Emitter - Base Voltage	V_{EBO}	10	Volts
Collector Current	I_C	100	Amps
Base Current	I_B	20	Amps
Total Device Dissipation @ $T_C = 25^\circ C$	P_D	200	Watts
Derate above 25 °C		1.14	W/°C
Operating and Storage Temperature	T_j, T_{stg}	-65 to +200	°C

THERMAL CHARACTERISTICS

Characteristics	Symbol	Value	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	0.875	°C/W

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min.	Max.	Unit
Collector - Emitter Breakdown Voltage* ($I_C = 50$ mA)	BV_{CEO}	150		Vdc
Collector - Base Breakdown Voltage ($I_C = 200$ μ A)	BV_{CBO}	250		Vdc
Emitter - Base Breakdown Voltage ($I_E = 200$ μ A)	BV_{EBO}	10		Vdc

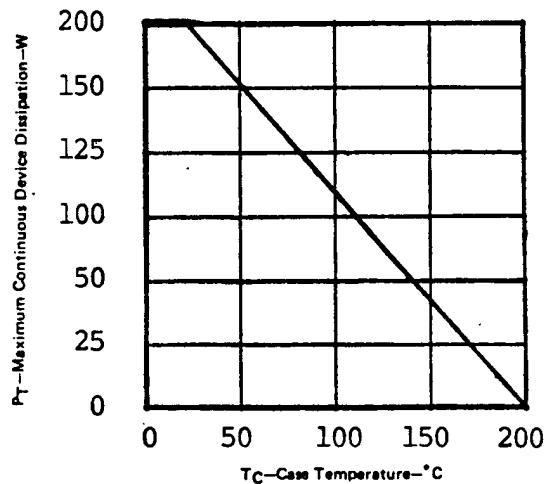
ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min.	Max.	Unit
Collector Cutoff Current ($V_{CE} = 120 \text{ V}$)	I_{CEO}		10	μA
Collector Cutoff Current ($V_{CB} = 150 \text{ V}$)	I_{CBO}		10	μA
Emitter Cutoff Current ($V_{EB} = 10 \text{ V}$)	I_{EBO}		1	μA
DC Current Gain* ($I_C = 50$ Adc, $V_{CE} = 5$ Vdc) ($I_C = 100$ Adc, $V_{CE} = 5$ Vdc)	h_{FE}	10 25 5 15		
Collector - Emitter Saturation Voltage* ($I_C = 50$ Adc, $I_B = 5$ Adc) ($I_C = 100$ Adc, $I_B = 10$ Adc)	$V_{CE(SAT)}$		0.7 1.3	Vdc
Base - Emitter Saturation Voltage* ($I_C = 50$ Adc, $I_B = 5$ Adc) ($I_C = 100$ Adc, $I_B = 10$ Adc)	$V_{BE(SAT)}$		1.5 2.0	Vdc
Current - Gain - Bandwidth Product ($I_C = 1.0$ Adc, $V_{CE} = 10$ Vdc, $f = 10$ MHz)	f_T	50		MHz
Output Capacitance ($V_{CB} = 10$ Vdc, $I_E = 0$, $f = 1$ MHz)	C_{ob}		800	pf
Input Capacitance ($V_{BE} = 10$ Vdc, $I_C = 0$, $f = 1$ MHz)	C_{ib}		2000	pf
Delay Time	$(V_{CC} = 100 \text{ Vdc},$ $I_C = 20 \text{ Adc},$ $I_{B1} = I_{B2} = 2 \text{ Adc})$	t_d	100	ns
Rise Time		t_r	500	ns
Storage Time		t_s	800	ns
Fall Time		t_f	100	ns

Pulse Test: Pulse width = 300 us, DutyCycle = 2%

TYPICAL OPERATING CURVES

DISSIPATION DERATING CURVE



SSDI SOLID STATE DEVICES, INC.