PRELIMINARY DATA SHEET 5-8-85

X00116

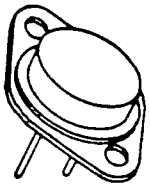
SFT1002 AND SFT1004
100 AMP
HIGH SPEED NPN TRANSISTOR
250 VOLTS

SSDI

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 @ TC = 25°C Derate above 25 °C	P_D	200 1.14	Watts W/°C
Operating and Storage Temperature	Tj, Tstg	-65 to +200	°C

THERMAL CHARACTERISTICS

Characteristics	Symbol	Value	Unit
Thermal Resistance, Junction to Case	RθJC	0.875	°C.W

ELECTRICAL CHARACTERISTICS

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

NOTE: All specifications subject to change without notice.

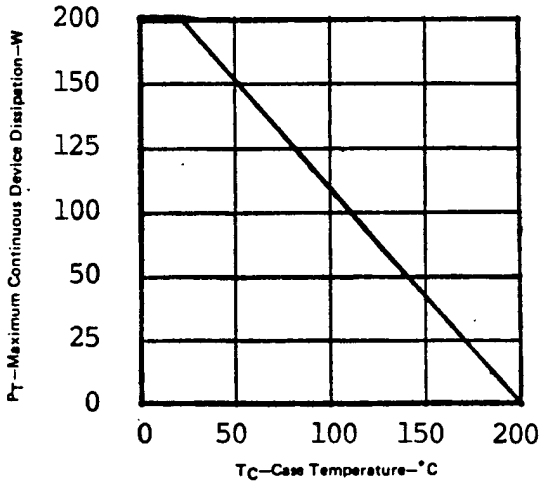
ELECTRICAL CHARACTERISTICS

Characteristics		Symbol	Min.	Max.	Unit
Collector Cutoff Current (V_{CE} = 120 V)		I_{CEO}		10	uAdc
Collector Cutoff Current (V_{CB} = 150 V)		I_{CBO}		10	uAdc
Emitter Cutoff Current (V_{EB} = 10 V)		I_{EBO}		1	uAdc
DC Current Gain* (I_C = 50 Adc, V_{CE} = 5 Vdc)	SFT1002 SFT1004	h_{FE}*	10 25		
(I_C = 100 Adc, V_{CE} = 5 Vdc)	SFT1002 SFT1004		5 15		
Collector - Emitter Saturation Voltage* (I_C = 50 Adc, I_B = 5 Adc)		$V_{CE(SAT)}$*		0.7	Vdc
(I_C = 100 Adc, I_B = 10 Adc)				1.3	
Base - Emitter Saturation Voltage* (I_C = 50 Adc, I_B = 5 Adc)		$V_{BE(SAT)}$*		1.5	Vdc
(I_C = 100 Adc, I_B = 10 Adc)				2.0	
Current - Gain - Bandwith 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 Vdc,	t_d		100	ns
Rise Time		t_r		500	ns
Storage Time	I_C = 20 Adc,	t_s*		800	ns
Fall Time	$I_{B1} = I_{B2}$ = 2 Adc)	t_f		100	ns

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

TYPICAL OPERATING CURVES

DISSIPATION DERATING CURVE



SSDI SOLID STATE DEVICES, INC.

P.O. Box 577, La Mirada, California 90637

Telephone: (213) 921-9660 • TWX 910-583-4807 • FAX#213-921-2396