

X00116

SFT1002 AND SFT1004

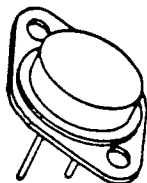
100 AMP

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
- BV_{CEO} 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 _{EB0}	10	Volts
Collector Current	I _C	100	Amps
Base Current	I _B	20	Amps
Total Device Dissipation @ TC = 25°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 _{θJC}	0.875	°C/W

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min.	Max.	Unit
Collector - Emitter Breakdown Voltage* (I _C = 50 mA Adc)	BV _{CEO} *	150		Vdc
Collector - Base Breakdown Voltage (I _C = 200 μA Adc)	BV _{CBO}	250		Vdc
Emitter - Base Breakdown Voltage (I _E = 200 μA Adc)	BV _{EB0}	10		Vdc

5/85 B226S (2)

NOTE: All specifications subject to change without notice.

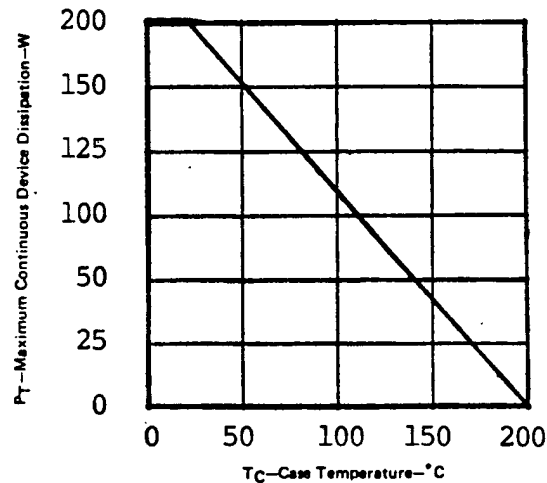
ELECTRICAL CHARACTERISTICS

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, $V_{CE} = 5 \text{ Vdc}$) ($I_C = 100$ Adc, $V_{CE} = 5 \text{ Vdc}$) SFT1002 SFT1004 SFT1002 SFT1004	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, $V_{CE} = 10 \text{ Vdc}$, $f = 10 \text{ MHz}$)	f_T	50		MHz
Output Capacitance ($V_{CB} = 10 \text{ Vdc}$, $I_E = 0$, $f = 1 \text{ MHz}$)	C_{ob}		800	pf
Input Capacitance ($V_{BE} = 10 \text{ Vdc}$, $I_C = 0$, $f = 1 \text{ MHz}$)	C_{ib}		2000	pf
Delay Time ($V_{CC} = 100 \text{ Vdc}$,	t_d		100	ns
Rise Time $I_C = 20$ Adc,	t_r		500	ns
Storage Time $I_{B1} = I_{B2} = 2$ Adc)	t_s		800	ns
Fall Time	t_f		100	ns

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

TYPICAL OPERATING CURVES

DISSIPATION DERATING CURVE



SSDII SOLID STATE DEVICES, INC.