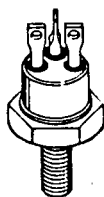


X00121

SFT3997 5 AMP HIGH SPEED NPN TRANSISTOR 150 VOLTS	SSDI 14849 FIRESTONE BLVD. LA MIRADA, CA. 90638 (213) 921-9660 FAX (213) 921-2396
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CASE STYLE X
JEDEC TO-59
ALL TERMINALS ISOLATED FROM CASE



FEATURES

- ▶ RADIATION TOLERANT
- ▶ SUPERIOR TO JEDEC 2N3997 SERIES
- ▶ HIGH FREQUENCY, TYPICAL f_T 100MHz
- ▶ VERY LOW SATURATION
- ▶ FAST SWITCHING, 130 NSEC MAX t_{on}
- ▶ DESIGNED FOR COMPLIMENTARY USE WITH SFT5001

MAXIMUM RATINGS

RATING	SYMBOL	VALUE	UNIT
Collector-Emitter Voltage	V _{CEO}	80	Volts
Collector-Base Voltage	V _{CBO}	150	Volts
Emitter-Base Voltage	V _{EBO}	8	Volts
Collector Current	I _C	5	Amps
Base Current	I _B	1	Amps
Total Device Dissipation @ T _c = 100 °C Derate Above 100 °C	PD	30 300	Watts mW/ °C
Operating and Storage Temperature	T _J , T _{stg}	-65 to +200	°C

THERMAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Thermal Resistance, Junction to Case	R _{θJC}	3.33	°C/W

ELECTRICAL CHARACTERISTICS

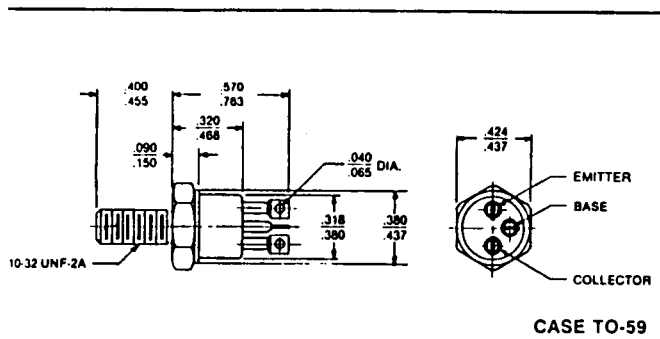
Characteristics	Symbol	Min	Max	Unit
Collector-Emitter Breakdown Voltage* (I _C = 10mA _{dc})	BV _{CEO}	80		Volts
Collector-Base Breakdown Voltage (I _C = 20μA _{dc})	BV _{CBO}	150		Volts

ELECTRICAL CHARACTERISTICS

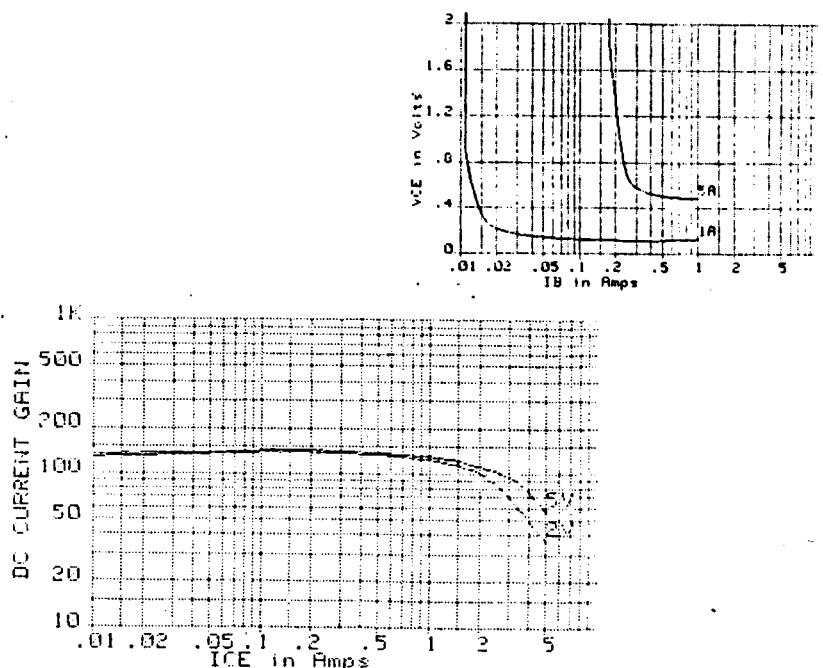
Characteristics	Symbol	Min	Max	Unit
Emitter-Base Breakdown Voltage ($I_E = 20 \mu\text{A}$)	BVEBO	8		Vdc
Collector Cutoff Current ($V_{CB} = 100 \text{ Vdc}$, $V_{CE} = 60 \text{ Vdc}$)	ICBO ICEO		1.0 10	μA μA
Emitter Cutoff Current ($V_{EB} = 6 \text{ Vdc}$)	IEBO		1.0	μA
DC Current Gain* ($I_C = 50 \text{ mA}$, $V_{CE} = 5 \text{ Vdc}$) ($I_C = 1.0 \text{ A}$, $V_{CE} = 5 \text{ Vdc}$) ($I_C = 1.0 \text{ A}$, $V_{CE} = 5 \text{ Vdc}$)	hFE	50 50 30		
Collector-Emitter Saturation Voltage* ($I_C = 1.0 \text{ A}$, $I_B = 100 \text{ mA}$) ($I_C = 5.0 \text{ A}$, $I_B = 500 \text{ mA}$)	VCE(SAT)		500 1.0	mVdc Vdc
Base-Emitter Saturation Voltage ($I_C = 1.0 \text{ A}$, $I_B = 100 \text{ mA}$) ($I_C = 5.0 \text{ A}$, $I_B = 500 \text{ mA}$)	VBE(SAT)		900 1.2	mVdc Vdc
Current Gain Bandwidth Product ($I_C = 500 \text{ mA}$, $V_{CE} = 5 \text{ Vdc}$, $f = 10 \text{ MHz}$)	fT	80		MHz
Output Capacitance ($V_{CB} = 10 \text{ Vdc}$, $I_E = 0 \text{ A}$, $f = 1.0 \text{ MHz}$)	Cob		100	pf
Delay Time Rise Time Storage Time Fall Time	($V_{CC} = 20 \text{ Vdc}$, $I_C = 1.0 \text{ A}$, $I_{B1} = I_{B2} = 100 \text{ mA}$, $V_{BE}(\text{off}) = 3.7 \text{ Vdc}$, $R_L = 20 \Omega$)	t(on) t(off)	150	ns ns

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

PHYSICAL DIMENSIONS



TYPICAL OPERATING CURVES



SSDI

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