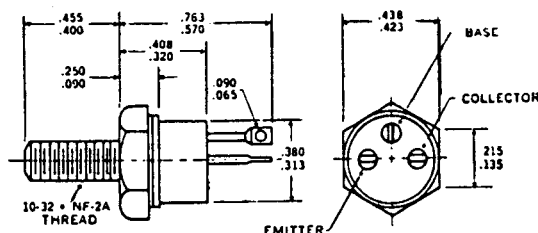


X00112

SFT102 0.5 AMP HIGH VOLTAGE NPN TRANSISTOR 450 VOLTS	SSDI 14830 VALLEY VIEW LA MIRADA, CA. 90638 (213) 921-9660 TWX 910-583-4807 FAX 213-921-2396
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CASE STYLE TO-59
ALL TERMINALS ISOLATED FROM CASE

**FEATURES**

- ▶ BVCEO 350 VOLTS MIN.
- ▶ HIGH GAIN FROM 1mA TO 200mA
- ▶ VERY LOW LEAKAGE
- ▶ CHIP TO CASE CAPACITANCE LESS THAN 5pf
- ▶ 200 °C OPERATING TEMPERATURE
- ▶ GOLD EUTECTIC DIE ATTACH
- ▶ IDEAL FOR HIGH VOLTAGE VIDEO AMPLIFIERS
- ▶ FAST SWITCHING, $t_{on} = 500ns$ MAX.

MAXIMUM RATINGS

RATING	SYMBOL	VALUE	UNIT
Collector-Emitter Voltage	VCEO	350	Volts
Collector-Base Voltage	VCBO	450	Volts
Emitter-Base Voltage	VEBO	7.0	Volts
Collector Current	IC	0.5	Amps
Base Current	IB	0.1	Amps
Total Device Dissipation @ $T_c = 25^\circ C$	PD	25	Watts
Derate Above $25^\circ C$		166	mW/°C
Operating and Storage Temperature	TJ, Tstg	-65 to +200	°C

THERMAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Thermal Resistance, Junction to Case	RθJC	6.0	°C/W

ELECTRICAL CHARACTERISTICS

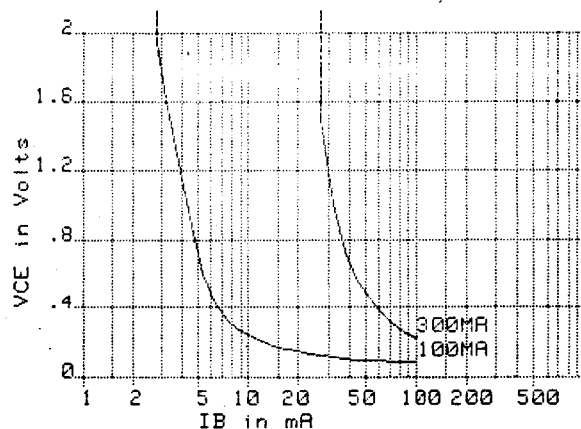
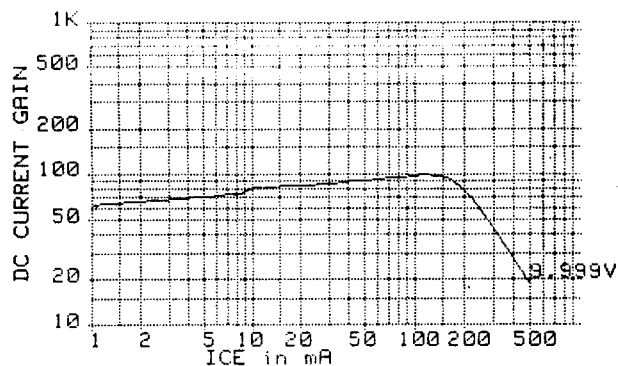
Characteristics	Symbol	Min	Max	Unit
Collector-Emitter Breakdown Voltage* (IC = 10mAdc)	BVCEO	350		Volts
Collector-Base Breakdown Voltage (IC = 10uAdc)	BVCBO	450		Volts

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min	Max	Unit
Emitter-Base Breakdown Voltage ($I_E = 10\mu\text{A}$)	BVEBO	7		Vdc
Collector Cutoff Current ($V_{CE} = 300\text{Vdc}$)	ICEO		10	μA
Collector Cutoff Current ($V_{CB} = 400\text{Vdc}$)	ICBO		1	μA
Emitter Cutoff Current ($V_{EB} = 6\text{Vdc}$)	IEBO		500	nA
DC Current Gain* ($I_C = 100\mu\text{A}$, $V_{CE} = 10\text{Vdc}$) ($I_C = 10\text{mA}$, $V_{CE} = 10\text{Vdc}$) ($I_C = 300\text{mA}$, $V_{CE} = 10\text{Vdc}$)	hFE	50 70 30		
Collector-Emitter Saturation Voltage* ($I_C = 100\text{mA}$, $I_B = 10\text{mA}$) ($I_C = 300\text{mA}$, $I_B = 30\text{mA}$)	$V_{CE(SAT)}$		0.4 1.5	Vdc
Base-Emitter Saturation Voltage* ($I_C = 100\text{mA}$, $I_B = 10\text{mA}$) ($I_C = 300\text{mA}$, $I_B = 30\text{mA}$)	$V_{BE(SAT)}$		0.8 1.0	Vdc
Current Gain Bandwidth Product ($I_C = 10\text{mA}$, $V_{CE} = 10\text{Vdc}$, $f = 10\text{MHz}$)	fT	25		MHz
Output Capacitance ($V_{CB} = 10\text{Vdc}$, $I_E = 0\text{A}$, $f = 1\text{MHz}$)	Cob		20	pf
Input Capacitance ($V_{BE} = 0.5\text{Vdc}$, $I_C = 0\text{A}$, $f = 1\text{MHz}$)	Cib		150	pf
Turn On Time	(VCC = 50Vdc, IC = 10mA, IB1 = IB2 = 5.0mA)	ton	500	ns
Turn Off Time		toff	2.5	us

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

TYPICAL OPERATING CURVES



SSDI

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