Preliminary Data Sheet

X00128

SFT5659

15 AMP

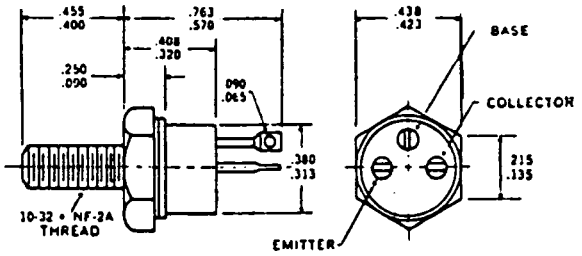
HIGH SPEED NPN TRANSISTOR

150 VOLTS

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

CASE STYLE TO-59

All Terminals Isolated From Case



FEATURES

- RADIATION TOLERANT
- FAST SWITCHING, 150ns MAX ton
- HIGH FREQUENCY, TYPICAL fT 100MHz
- BVCEO 80 VOLTS MINIMUM
- HIGH GAIN, VERY LOW SATURATION VOLTAGE
- GOLD EUTECTIC DIE ATTACH
- DESIGNED FOR COMPLEMENTARY USE WITH SFT6189

MAXIMUM RATINGS

RATING	SYMBOL	VALUE	UNIT
Collector-Emitter Voltage	VCEO	80	Volts
Collector-Base Voltage	VCBO	150	Volts
Emitter-Base Voltage	VEBO	8	Volts
Collector Current	IC	15	Amps
Base Current	IB	2	Amps
Total Device Dissipation @ Tc = 100°C Derate Above 100°C	PD	30 500	Watts mW/°C
Operating and Storage Temperature	TJ,Tstg	-65 to +200	°C

THERMAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Thermal Resistance, Junction to Case	RθJC	2.0	°C/W

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min	Max	Unit
Collector-Emitter Breakdown Voltage* (IC = 100mAdc)	BVCEO	80		Volts
Collector-Base Breakdown Voltage (IC = 200uAdc)	BVCBO	150		Volts

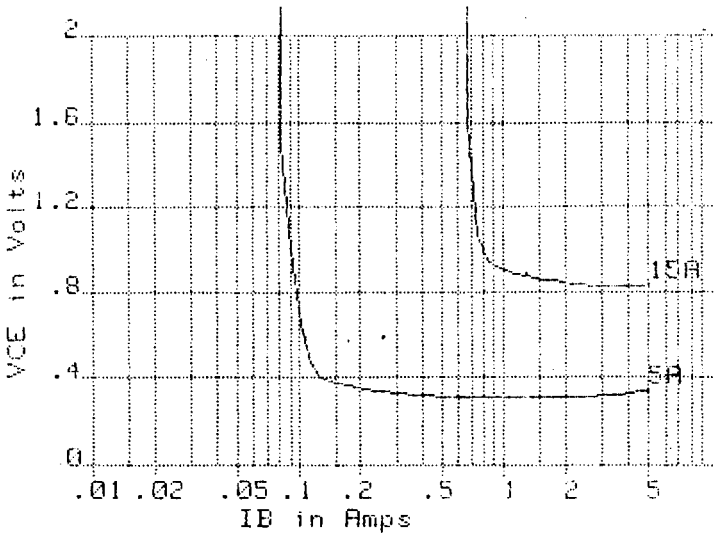
Note: Specifications subject to change without notice.

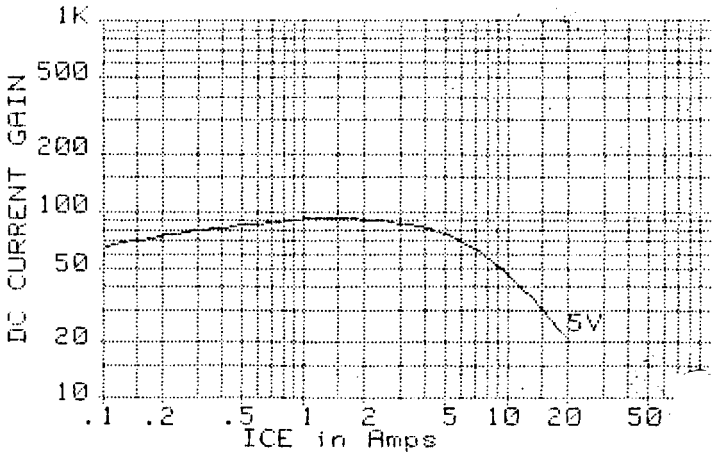
ELECTRICAL CHARACTERISTICS

Characteristics		Symbol	Min	Max	Unit
Emitter-Base Breakdown Voltage (IE = 200μAdc)		BVEBO	8		Vdc
Collector Cutoff Current (VCE = 60Vdc)		ICEO		10	μAdc
Collector Cutoff Current (VCB = 100Vdc)		ICBO		1	μAdc
Emitter Cutoff Current (VEB = 6Vdc)		IEBO		1	μAdc
DC Current Gain* (IC = 5Adc, VCE = 5Vdc) (IC = 10Adc, VCE = 5Vdc) (IC = 15Adc, VCE = 5Vdc)		hFE	50 30 20	250 150	
Collector-Emitter Saturation Voltage* (IC = 5Adc, IB = 500mAdc) (IC = 15Adc, IB = 1.5Adc)		VCE(SAT)		0.5 1.5	Vdc
Base-Emitter Saturation Voltage* (IC = 5Adc, IB = 500mAdc) (IC = 15Adc, IB = 1.5Adc)		VBE(SAT)		1.2 1.5	Vdc
Current Gain Bandwidth Product (IC = 500mAdc, VCE = 5Vdc, f = 10MHz)		fT	70		MHz
Output Capacitance (VCB = 10Vdc, IE = 0Adc, f = 1MHz)		Cob		150	pf
Turn On Time	(VCC = 25Vdc, IC = 5Adc, IB1 = IB2 = 250mAdc, Base - Emitter clamp diode = 1N5802 or equivalent)	t(on)		150	ns
Turn Off Time		t(off)		800	ns

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

TYPICAL OPERATING CURVES





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