

SFT5659

15 AMP

HIGH SPEED NPN TRANSISTOR

150 VOLTS

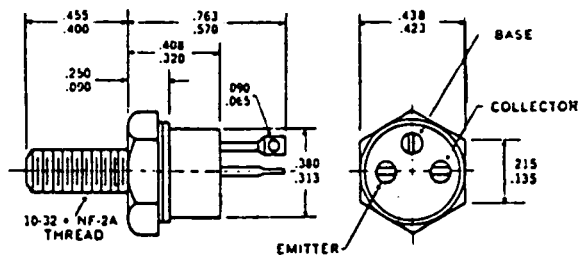
SSDII

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CASE STYLE TO-59

FEATURES

All Terminals Isolated From Case



- ▶ RADIATION TOLERANT
- ▶ FAST SWITCHING, 150ns MAX t_{on}
- ▶ HIGH FREQUENCY, TYPICAL f_T 100MHz
- ▶ V_{CEO} 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	V_{CEO}	80	Volts
Collector-Base Voltage	V_{CBO}	150	Volts
Emitter-Base Voltage	V_{EBO}	8	Volts
Collector Current	I_C	15	Amps
Base Current	I_B	2	Amps
Total Device Dissipation @ $T_c = 100^\circ\text{C}$ Derate Above 100°C	P_D	30 500	Watts mW/ $^\circ\text{C}$
Operating and Storage Temperature	T_J, T_{stg}	-65 to +200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Thermal Resistance, Junction to Case	$R_{\theta JC}$	2.0	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS

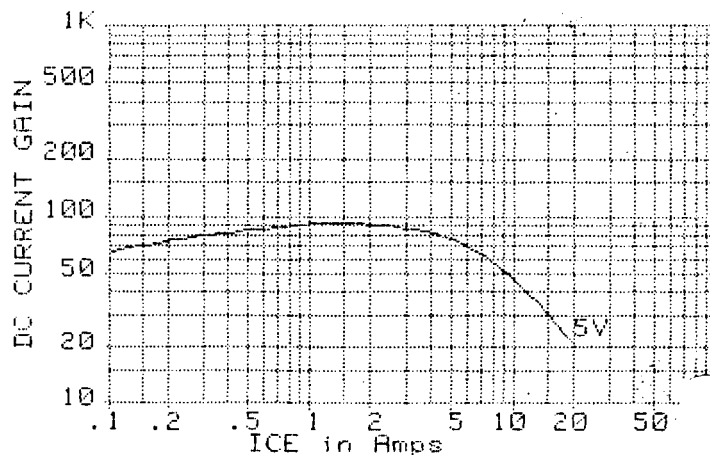
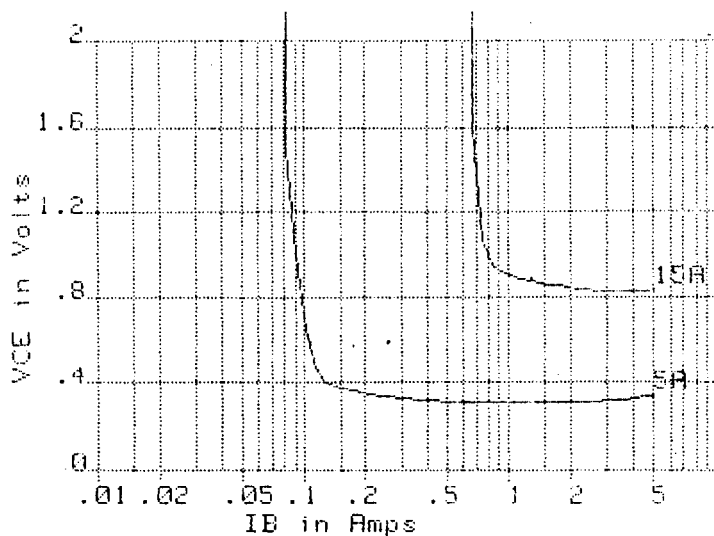
Characteristics	Symbol	Min	Max	Unit
Collector-Emitter Breakdown Voltage* ($I_C = 100\text{mA dc}$)	V_{CEO}	80		Volts
Collector-Base Breakdown Voltage ($I_C = 200\mu\text{A dc}$)	V_{CBO}	150		Volts

ELECTRICAL CHARACTERISTICS

Characteristics		Symbol	Min	Max	Unit
Emitter-Base Breakdown Voltage ($I_E = 200\mu\text{Adc}$)		BVEBO	8		Vdc
Collector Cutoff Current ($V_{CE} = 60\text{Vdc}$)		ICEO		10	μAdc
Collector Cutoff Current ($V_{CB} = 100\text{Vdc}$)		ICBO		1	μAdc
Emitter Cutoff Current ($V_{EB} = 6\text{Vdc}$)		IEBO		1	μAdc
DC Current Gain*		hFE	50 30 20	250 150	
(IC = 5Adc, VCE = 5Vdc) (IC = 10Adc, VCE = 5Vdc) (IC = 15Adc, VCE = 5Vdc)					
Collector-Emitter Saturation Voltage*		VCE(SAT)		0.5 1.5	Vdc
(IC = 5Adc, IB = 500mAdc) (IC = 15Adc, IB = 1.5Adc)					
Base-Emitter Saturation Voltage*		VBE(SAT)		1.2 1.5	Vdc
(IC = 5Adc, IB = 500mAdc) (IC = 15Adc, IB = 1.5Adc)					
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 = 300 μs , Duty Cycle = 2%

TYPICAL OPERATING CURVES



SOLID STATE DEVICES, INC.