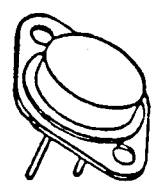


X00136 08

SFT1016	SFT1018	SFT1020	SSDI
100 AMP			
HIGH ENERGY NPN TRANSISTORS			14849 FIRESTONE BLVD. LA MIRADA, CA 90638 TEL: (213) 921-9660 FAX: (213) 921-2396
350 VOLTS			

CASE STYLE  
T0-3



**FEATURES**

- ▶ BVCEO 160 - 200 VOLTS
- ▶ 300 WATTS POWER DISSIPATION
- ▶ EXCELLENT SOA CURVE
- ▶ Es/b OF 400mJ
- ▶ GAIN OF OVER 5 AT 100 AMPS
- ▶ HIGH-REL CONSTRUCTION INCLUDING GOLD EUTECTIC DIE MOUNTING. ALUMINUM WIRING
- ▶ PLANAR CHIP CONSTRUCTION WITH LOW LEAKAGE AND VERY FAST SWITCHING

**MAXIMUM RATINGS**

RATING	SYMBOL	VALUE	UNIT
Collector-Emitter Voltage SFT1016 SFT1018 SFT1020	VCEO	160 180 200	Volts
Collector-Base Voltage	VCBO	350	Volts
Emitter-Base Voltage	VEBO	8	Volts
Collector Current	IC	100	Amps
Base Current	IB	35	Amps
Total Device Dissipation @ Tc = 50 °C Derate Above 50 °C	PD	300 2	Watts W/ °C
Operating and Storage Temperature	TJ, Tstg	-65 to +200	°C

**THERMAL CHARACTERISTICS**

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Thermal Resistance, Junction to Case	RθJC	0.5	°C/W

**ELECTRICAL CHARACTERISTICS**

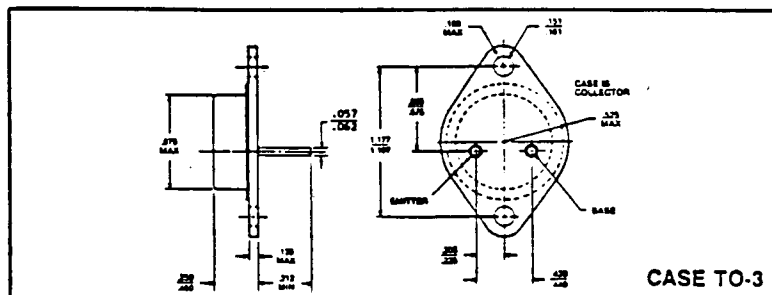
Characteristics	Symbol	Min	Max	Unit
Collector-Emitter Breakdown Voltage* (IC = 200mAdc)	BVCEO	160 180 200		Volts
Collector-Base Breakdown Voltage (IC = 100uAdc)	BVCBO	350		Volts

# ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min	Max	Unit
Emitter-Base Breakdown Voltage ( $I_E = 100\mu\text{A}$ )	BVEBO	8		Vdc
Collector Cutoff Current ( $V_{CB} = 35\text{Vdc}$ )	ICBO		10	$\mu\text{A}$
Emitter Cutoff Current ( $V_{EB} = 7\text{Vdc}$ )	IEBO		10	$\mu\text{A}$
DC Current Gain* ( $I_C = 10\text{A}$ , $V_{CE} = 2\text{V}$ ) ( $I_C = 50\text{A}$ , $V_{CE} = 5\text{V}$ ) ( $I_C = 100\text{A}$ , $V_{CE} = 5\text{V}$ )	hFE	40 30 7		
Collector-Emitter Saturation Voltage* ( $I_C = 50\text{A}$ , $I_B = 5\text{A}$ ) ( $I_C = 100\text{A}$ , $I_B = 10\text{A}$ )	VCE(SAT)		2 4	Vdc
Base-Emitter Saturation Voltage* ( $I_C = 100\text{A}$ , $I_B = 10\text{A}$ )	VBE(SAT)		2.5	Vdc
Current Gain Bandwidth Product ( $I_C = 1\text{A}$ , $V_{CE} = 10\text{V}$ , $f = 10\text{MHz}$ )	fT	40		MHz
Output Capacitance ( $V_{CB} = 10\text{V}$ , $I_E = 0\text{A}$ , $f = 1\text{MHz}$ )	Cob		1200	pf
Energy, Secondary Breakdown ( $I_B = 1\text{A}$ , $R_{B1} = R_{B2} = 20\Omega$ ) $V_{BE}(\text{off}) = 2.0\text{V}$ , $L = 1.0\text{mH}$ )	Es/b	400		mJ
Current, Secondary Breakdown ( $V_{CE} = 20\text{V}$ , $I_C = 15\text{A}$ ) ( $V_{CE} = 100\text{V}$ , $I_C = 0.4\text{A}$ )	Is/b	1 1		sec
On Time	(VCC = 60Vdc, IC = 10A, IB1 = IB2 = 1.0A)	ton	800	ns
Storage Time		ts	1500	ns
Fall Time		tf	400	ns

\*Pulse Test: Pulse Width = 300 $\mu\text{s}$ , Duty Cycle = 2%

## PHYSICAL DIMENSIONS



SSDI

SOLID STATE DEVICES, INC.

14849 FIRESTONE BOULEVARD  
TELEPHONE: (213) 921-9660

LA MIRADA, CA 90638  
FAX: (213) 921-2396

SFT1016/18/20