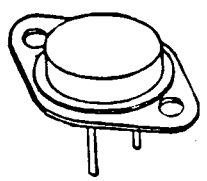


X00134

<b>SFT815</b> HIGH ENERGY FAST SWITCHING NPN POWER TRANSISTOR <b>90 AMPS, 300 VOLT</b>	<b>SSDI</b>  14849 FIRESTONE BLVD. LA MIRADA, CA. 90638 TEL (213) 921-9660 FAX (213) 921-2396
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**CASE STYLE**  
JEDEC TO-3 WITH .060 PINS



**FEATURES**

- ▶ HIGH ENERGY
- ▶ FAST SWITCHING -  $t_r$  300 nsec MAX
- ▶ SINGLE CHIP CONSTRUCTION
- ▶ VERY LOW SATURATION
- ▶ HIGH GAIN TO 90 AMPS
- ▶ SUPERIOR PERFORMANCE TO  
SDT96301-SDT96303
- ▶ EUTECTIC DIE ATTACH
- ▶ HI-REL CONSTRUCTION

**MAXIMUM RATINGS**

RATING	SYMBOL	VALUE	UNIT
Collector-Emitter Voltage	VCEO	140	Volts
Collector-Base Voltage	VCBO	300	Volts
Emitter-Base Voltage	VEBO	10	Volts
Collector Current	IC	90	Amps
Base Current	IB	15	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**

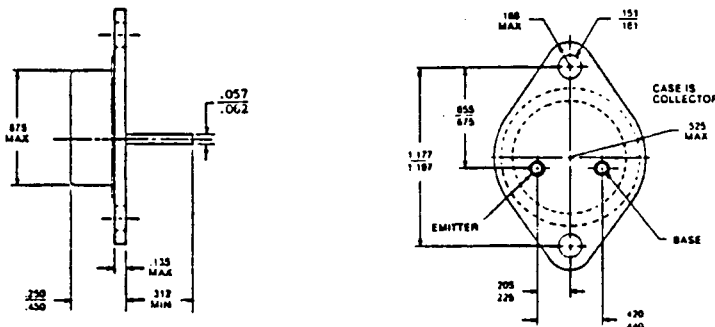
Characteristics	Symbol	Min	Max	Unit
Collector-Emitter Breakdown Voltage* (IC = 200mA dc)	BVCEO	140		Volts
Collector-Base Breakdown Voltage (IC = 100uA dc)	BVCBO	300		Volts

## ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min	Max	Unit	
Emitter-Base Breakdown Voltage ( $I_E = 100 \mu\text{A}_{dc}$ )	BVEBO	10	-	Vdc	
Collector Cutoff Current ( $V_{CB} = 200\text{V}_{dc}$ )	ICBO	-	10	$\mu\text{A}_{dc}$	
Emitter Cutoff Current ( $V_{EB} = 8\text{V}_{dc}$ )	IEBO	-	10	$\mu\text{A}_{dc}$	
DC Current Gain* ( $I_C = 30\text{A}_{dc}$ , $V_{CE} = 5\text{V}_{dc}$ ) ( $I_C = 50\text{A}_{dc}$ , $V_{CE} = 5\text{V}_{dc}$ ) ( $I_C = 90\text{A}_{dc}$ , $V_{CE} = 5\text{V}_{dc}$ )	hFE	35 25 15	- - -		
Collector-Emitter Saturation Voltage* ( $I_C = 30\text{A}_{dc}$ , $I_B = 3\text{A}_{dc}$ ) ( $I_C = 50\text{A}_{dc}$ , $I_B = 5\text{A}_{dc}$ ) ( $I_C = 90\text{A}_{dc}$ , $I_B = 9\text{A}_{dc}$ )	VCE(SAT)	- - -	1.0 1.2 1.8	Vdc	
Base-Emitter Saturation Voltage* ( $I_C = 30\text{A}_{dc}$ , $I_B = 3\text{A}_{dc}$ ) ( $I_C = 50\text{A}_{dc}$ , $I_B = 5\text{A}_{dc}$ ) ( $I_C = 90\text{A}_{dc}$ , $I_B = 9\text{A}_{dc}$ )	VBE(SAT)	- - -	1.2 1.6 2.0	Vdc	
Current Gain Bandwidth Product ( $I_C = 1\text{A}_{dc}$ , $V_{CE} = 10\text{V}_{dc}$ , $f = 1\text{MHz}$ )	fT	10	-	MHz	
Output Capacitance ( $V_{CB} = 10\text{V}_{dc}$ , $I_E = 0\text{A}_{dc}$ , $f = 1\text{MHz}$ )	Cob	-	800	pf	
Second Breakdown Collector Current ( $t = 1\text{sec}$ , non repetitive, $V_{CE} = 30\text{V}$ )	IS/B	2		A <sub>dc</sub>	
Delay Time	$V_{CC} = 100\text{V}$ , $I_C = 50\text{A}$  $I_{B1} = I_{B2} = 1\text{A}$  $V_{BB} = -5\text{V}$	td	-	0.1	$\mu\text{s}$
Rise Time		tr	-	0.3	$\mu\text{s}$
Storage Time		ts	-	1.8	$\mu\text{s}$
Fall Time		tf	-	0.3	$\mu\text{s}$

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

## PHYSICAL DIMENSIONS



**SSDI**

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