

## PNP SILICON POWER TRANSISTOR 2SA1156

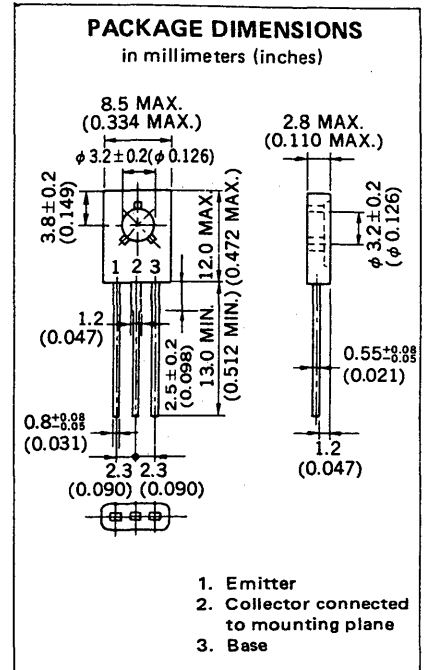
**DESCRIPTION** The 2SA1156 is suitable for Low Power Switching regulator, DC-DC converter and High Voltage Switch.

- FEATURES**
- High Breakdown Voltage.
  - Low Collector Saturation Voltage.
  - High Speed Switching.
  - Complementary to the NEC 2SC2752 NPN Transistor.

**ABSOLUTE MAXIMUM RATINGS**

Maximum Temperatures	
Storage Temperature	-55 to +150 °C
Junction Temperature	+150 °C Maximum
Maximum Power Dissipations	
Total Power Dissipation (T <sub>a</sub> = 25 °C)	1.0 W
Total Power Dissipation (T <sub>c</sub> = 25 °C)	10 W
Maximum Voltages and Currents (T <sub>a</sub> = 25 °C)	
V <sub>CBO</sub>	Collector to Base Voltage . . . . . -400 V
V <sub>CEO</sub>	Collector to Emitter Voltage . . . . . -400 V
V <sub>EBO</sub>	Emitter to Base Voltage . . . . . -7.0 V
I <sub>C(DC)</sub>	Collector Current . . . . . -0.5 A
I <sub>C(pulse)</sub> *	Collector Current . . . . . -1.0 A
I <sub>B(DC)</sub>	Base Current. . . . . -0.25 A

\* PW ≤ 10 ms, Duty Cycle ≤ 50 %



**ELECTRICAL CHARACTERISTICS (T<sub>a</sub> = 25 °C)**

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
h <sub>FE</sub> **	DC Current Gain	30		200	-	V <sub>CE</sub> = -5.0 V, I <sub>C</sub> = -100 mA
t <sub>on</sub>	Turn On Time			1.0	μs	I <sub>C</sub> = -100 mA, R <sub>L</sub> = 1.5 kΩ I <sub>B1</sub> = -10 mA, I <sub>B2</sub> = 20 mA, V <sub>CC</sub> = -150 V PW = 50 μs, Duty Cycle ≤ 2 %
t <sub>stg</sub>	Storage Time			4.0	μs	
t <sub>f</sub>	Fall Time			1.0	μs	
V <sub>CEO(SUS)</sub>	Collector to Emitter Sustaining Voltage	-400			V	I <sub>C</sub> = -100 mA, I <sub>B</sub> = -10 mA, L = 20 mH
V <sub>CEX(SUS)</sub>	Collector to Emitter Sustaining Voltage	-400			V	I <sub>C</sub> = -200 mA, I <sub>B1</sub> = -I <sub>B2</sub> = -20 mA V <sub>BE(OFF)</sub> = 5.0 V, L = 10 mH, Clamped.
I <sub>CBO</sub>	Collector Cutoff Current			-100	μA	V <sub>CB</sub> = -400 V, I <sub>E</sub> = 0
I <sub>CX1</sub>	Collector Cutoff Current			-100	μA	V <sub>CE</sub> = -400 V, V <sub>BE(OFF)</sub> = 1.5 V
I <sub>CX2</sub>	Collector Cutoff Current			-1.0	mA	V <sub>CE</sub> = -400 V, V <sub>BE(OFF)</sub> = 1.5 V, T <sub>a</sub> = 125 °C
I <sub>EBO</sub>	Emitter Cutoff Current			-10	μA	V <sub>EB</sub> = -5.0 V, I <sub>C</sub> = 0
V <sub>CE(sat)</sub> **	Collector Saturation Voltage			-1.0	V	I <sub>C</sub> = -100 mA, I <sub>B</sub> = -10 mA
V <sub>BE(sat)</sub> **	Base Saturation Voltage			-1.2	V	I <sub>C</sub> = -100 mA, I <sub>B</sub> = -10 mA

\*\* Pulsed / PW ≤ 350 μs, Duty Cycle ≤ 2 %

**Classification of h<sub>FE</sub>**

Rank	N	M	L	K
Range	30 to 60	40 to 80	60 to 120	100 to 200

Test Conditions: V<sub>CE</sub> = -5.0 V, I<sub>C</sub> = -100 mA

TYPICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

