

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 $+150^{\circ}\text{C}$

Junction Temperature $+150^{\circ}\text{C}$ Maximum

Maximum Power Dissipations

Total Power Dissipation ($T_a = 25^{\circ}\text{C}$) 1.0 W

Total Power Dissipation ($T_c = 25^{\circ}\text{C}$) 10 W

Maximum Voltages and Currents ($T_a = 25^{\circ}\text{C}$)

V_{CBO} Collector to Base Voltage -400 V

V_{CEO} Collector to Emitter Voltage -400 V

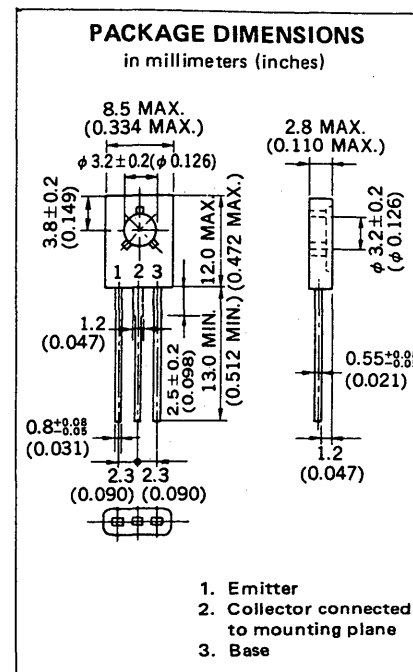
V_{EBO} Emitter to Base Voltage -7.0 V

$I_{C(DC)}$ Collector Current -0.5 A

$I_{C(pulse)}$ * Collector Current -1.0 A

$I_{B(DC)}$ Base Current. -0.25 A

* $PW \leq 10$ ms, Duty Cycle $\leq 50\%$



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

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
h_{FE}^{**}	DC Current Gain	30		200	—	$V_{CE} = -5.0$ V, $I_C = -100$ mA
t_{on}	Turn On Time			1.0	μs	$I_C = -100$ mA, $R_L = 1.5$ k Ω
t_{stg}	Storage Time			4.0	μs	$I_{B1} = -10$ mA, $I_{B2} = 20$ mA, $V_{CC} = -150$ V
t_f	Fall Time			1.0	μs	$PW = 50$ μs , Duty Cycle $\leq 2\%$
$V_{CEO(SUS)}$	Collector to Emitter Sustaining Voltage	-400			V	$I_C = -100$ mA, $I_B = -10$ mA, $L = 20$ mH
$V_{CEX(SUS)}$	Collector to Emitter Sustaining Voltage	-400			V	$I_C = -200$ mA, $I_{B1} = -I_{B2} = -20$ mA
I_{CBO}	Collector Cutoff Current			-100	μA	$V_{CB} = -400$ V, $I_E = 0$
I_{CEX1}	Collector Cutoff Current			-100	μA	$V_{CE} = -400$ V, $V_{BE(OFF)} = 1.5$ V
I_{CEX2}	Collector Cutoff Current			-1.0	mA	$V_{CE} = -400$ V, $V_{BE(OFF)} = 1.5$ V, $T_a = 125^{\circ}\text{C}$
I_{EBO}	Emitter Cutoff Current			-10	μA	$V_{EB} = -5.0$ V, $I_C = 0$
$V_{CE(sat)}^{**}$	Collector Saturation Voltage			-1.0	V	$I_C = -100$ mA, $I_B = -10$ mA
$V_{BE(sat)}^{**}$	Base Saturation Voltage			-1.2	V	$I_C = -100$ mA, $I_B = -10$ mA

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

Classification of h_{FE}

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

Test Conditions: $V_{CE} = -5.0$ V, $I_C = -100$ mA

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

