

SILICON POWER TRANSISTOR

2SC1449

AF POWER AMPLIFIER AND RF POWER AMPLIFIER

NPN SILICON EPITAXIAL TRANSISTOR

DESCRIPTION

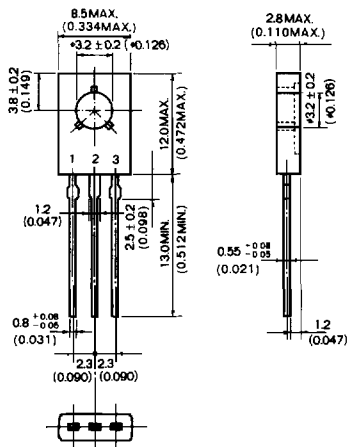
The 2SC1449 is an NPN general purpose transistor designed for use in audio and radio frequency power amplifiers.

FEATURES

- Suitable for use in output stage of 3-watt audio amplifiers.
- High current: I_C : 2.0A, I_C (pulse): 3.0A
- The smallest package in 3 watt class power transistor.

PACKAGE DIMENSIONS

in millimeters (inches)



1. Emitter
2. Collector connected to mounting plane
3. Base

ABSOLUTE MAXIMUM RATINGS

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

Collector to Base Voltage	V_{CB0}	40	V
Collector to Emitter Voltage	V_{CE0}	35	V
Emitter to Base Voltage	V_{EB0}	5.0	V
Collector Current (DC)	I_C	2.0	A
Collector Current (pulse)	I_C (pulse)*	3.0	A

Maximum Power Dissipations

Total Power Dissipation	P_T	1.0	W
Total Power Dissipation (at 25°C case temperature)	P_T	10	W

Maximum Temperatures

Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$
Operating Junction Temperature	T_j	150	$^\circ\text{C}$

* Pulse condition : pulse width $\leq 10\text{ms}$, duty cycle $\leq 50\%$.

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

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I_{CB0}			0.5	μA	$V_{CB} = 35\text{V}$, $I_E = 0$
Emitter Cutoff Current	I_{EB0}			0.5	μA	$V_{EB} = 3.0\text{V}$, $I_C = 0$
DC Current Gain	h_{FE}	40	90	250		$V_{CE} = 2.0\text{V}$, $I_C = 300\text{mA}$ *
Collector Saturation Voltage	$V_{CE(sat)}$		0.2	0.7	V	$I_C = 500\text{mA}$, $I_B = 50\text{mA}$ *
Base Saturation Voltage	$V_{BE(sat)}$		0.9	1.5	V	$I_C = 500\text{mA}$, $I_B = 50\text{mA}$ *
Gain Bandwidth Product	f_T		55		MHz	$V_{CE} = 5.0\text{V}$, $I_C = 100\text{mA}$
Output Capacitance	C_{ob}		20		pF	$V_{CB} = 10\text{V}$, $I_E = 0$, $f = 1\text{MHz}$

* Pulse test: pulse width $\leq 350\mu\text{s}$, duty cycle $\leq 2\%$.

h_{FE} Classification: N; 40—80, M; 60—120, L; 80—160, K; 120—250.

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