

isc Silicon NPN Power Transistor
2N5109
DESCRIPTION

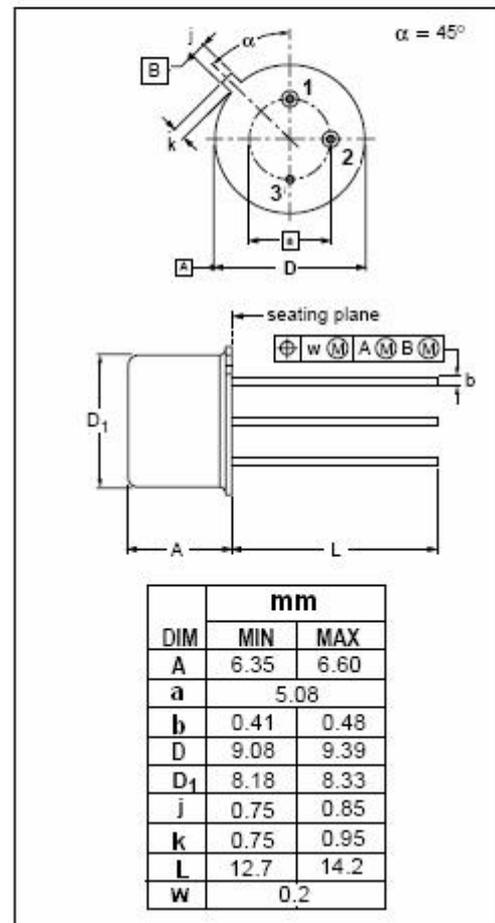
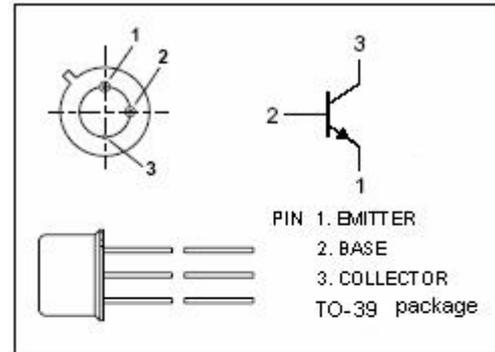
- High Current-Gain Bandwidth Product
: $f_T = 1200\text{MHz}$ (Min) @ $V_{CE} = 10\text{V}, I_E = 50\text{mA}$
- Low Saturation Voltage
- Good Linearity of h_{FE}
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for general purpose Class C amplifier applications up to 1 GHz

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	55	V
V_{CEO}	Collector-Emitter Voltage	35	V
V_{EBO}	Emitter-Base Voltage	4	V
I_C	Collector Current	0.4	A
P_C	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	3.5	W
	Collector Power Dissipation @ $T_a = 25^\circ\text{C}$	1.0	
T_j	Junction Temperature	175	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~175	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS
 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=100\text{mA}; I_B=10\text{mA}$			0.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=40\text{V}; I_E=0$			0.1	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=3\text{V}; I_C=0$			0.1	mA
h_{FE}	DC Current Gain	$I_C=10\text{mA}; V_{CE}=10\text{V}$	40		150	
f_T	Current-Gain—Bandwidth Product	$I_C=50\text{mA}; V_{CE}=10\text{V}; f=200\text{MHz}$	1200			MHz
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=28\text{V}; f_{test}=1.0\text{MHz}$			3.3	pF

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