

isc Silicon NPN Power Transistor

2SD1609

DESCRIPTION

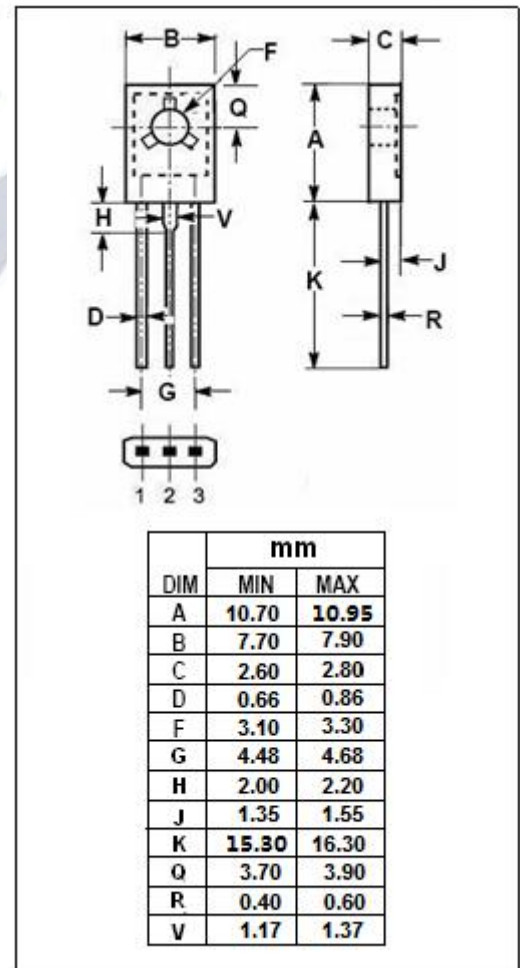
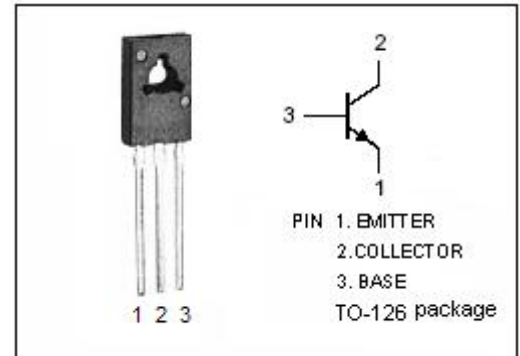
- High Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 160V(\text{Min})$
- Good Linearity of h_{FE}
- 100% avalanche tested
- Complement to Type 2SB1109
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for low frequency and high-voltage amplifier applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	160	V
V_{CEO}	Collector-Emitter Voltage	160	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	0.1	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	12.5	W
	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	1.25	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-45~150	$^\circ\text{C}$



isc Silicon NPN Power Transistor**2SD1609****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = 0.1\text{mA}$; $I_E = 0$	160			V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 1\text{mA}$; $R_{BE} = \infty$	160			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 0.1\text{mA}$; $I_C = 0$	5			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 30\text{mA}$; $I_B = 3\text{mA}$			2.0	V
$V_{BE(on)}$	Base-Emitter Saturation Voltage	$I_C = 10\text{mA}$; $V_{CE} = 5\text{V}$			1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = 160\text{V}$; $I_E = 0$			10	μA
h_{FE-1}	DC Current Gain	$I_C = 10\text{mA}$; $V_{CE} = 5\text{V}$	60		320	
h_{FE-2}	DC Current Gain	$I_C = 1\text{mA}$; $V_{CE} = 5\text{V}$	30			
f_T	Current-Gain—Bandwidth Product	$I_C = 10\text{mA}$; $V_{CE} = 5\text{V}$		140		MHz
C_{OB}	Output Capacitance	$I_E = 0$; $V_{CB} = 10\text{V}$, $f_{test} = 1\text{MHz}$		14		pF

◆ **h_{FE-1} Classifications**

B	C	D
60-120	100-200	160-320