

Silicon PNP Power Transistor

2SA1909

DESCRIPTION

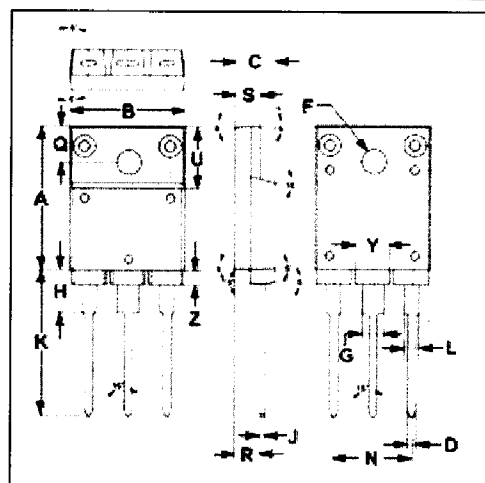
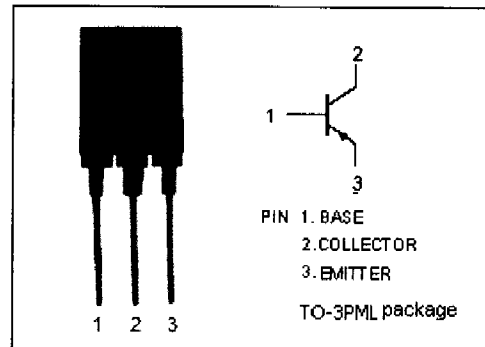
- Collector-Emitter Breakdown Voltage-
 $V_{(BR)CEO} = -140V(\text{Min})$
- Good Linearity of h_{FE}
- Complement to Type 2SC5101

APPLICATIONS

- Designed for audio and general purpose applications

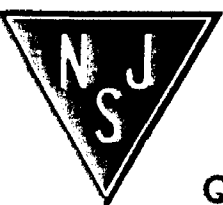
ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-140	V
V_{CEO}	Collector-Emitter Voltage	-140	V
V_{EBO}	Emitter-Base Voltage	-6	V
I_C	Collector Current-Continuous	-10	A
I_B	Base Current-Continuous	-4	A
P_C	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	80	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



DIM	mm	
	MIN	MAX
A	19.90	20.10
B	15.90	16.10
C	5.50	5.70
D	0.90	1.10
F	3.30	3.50
G	2.90	3.10
H	5.90	6.10
J	0.595	0.605
K	22.30	22.50
L	1.90	2.10
N	10.80	11.00
Q	4.90	5.10
R	3.75	3.95
S	3.20	3.40
U	9.90	10.10
Y	4.70	4.90
Z	1.90	2.10

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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -50\text{mA}; I_B = 0$	-140			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -5\text{A}; I_B = -0.5\text{A}$			-0.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = -140\text{V}; I_E = 0$			-10	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -6\text{V}; I_C = 0$			-10	μA
h_{FE}	DC Current Gain	$I_C = -3\text{A}; V_{CE} = -4\text{V}$	50			
C_{OB}	Collector Output Capacitance	$I_E = 0; V_{CB} = -10\text{V}; f = 1\text{MHz}$		400		pF
f_T	Current-Gain—Bandwidth Product	$I_E = 0.5\text{A}; V_{CE} = -12\text{V}$		20		MHz

Switching times

t_{on}	Turn-on Time	$I_C = -5\text{A}, R_L = 12\ \Omega,$ $I_{B1} = -I_{B2} = -0.5\text{A}, V_{CC} = -60\text{V}$		0.17		μs
t_{stg}	Storage Time			1.86		μs
t_f	Fall Time			0.27		μs

◆ h_{FE} classifications

O	P	Y
50-100	70-140	90-180