

Silicon NPN Power Transistor

BD809

DESCRIPTION

- DC Current Gain -
: $h_{FE}=30@ I_C=2A$
- Collector-Emitter Sustaining Voltage-
: $V_{CEQ(SUS)}=80V(\text{Min})$
- Complement to Type BD810

APPLICATIONS

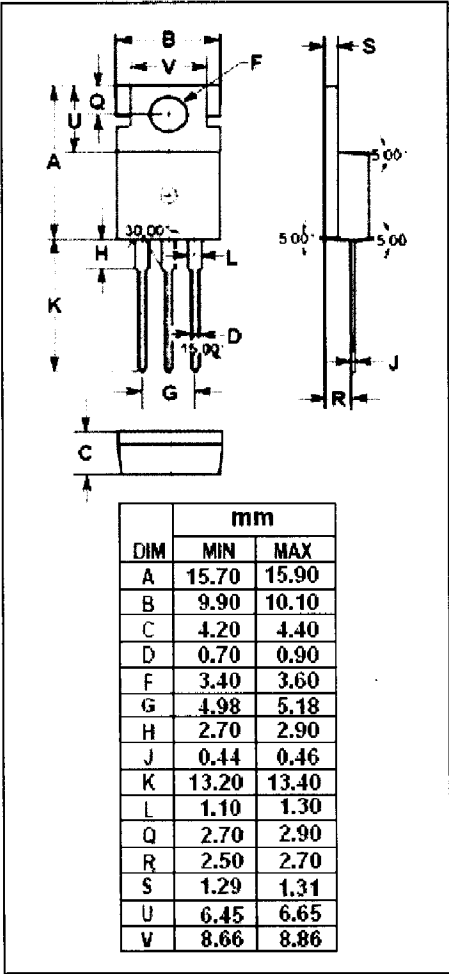
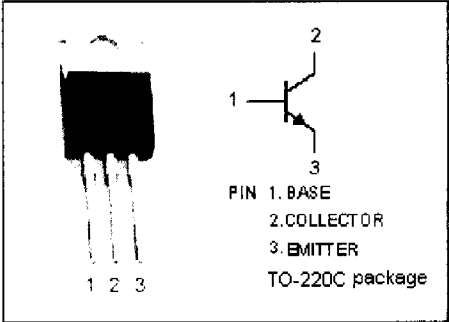
- Designed for use in high power audio amplifiers utilizing complementary or quasi complementary circuits.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	10	A
I_B	Base Current	6	A
P_C	Collector Power Dissipation @ $T_C=25^{\circ}C$	90	W
T_J	Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature Range	-55~150	$^{\circ}C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.39	$^{\circ}C/W$



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Silicon NPN Power Transistor**BD809****ELECTRICAL CHARACTERISTICS** **$T_C=25^\circ\text{C}$ unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = 100\text{mA}; I_B = 0$	80		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 3\text{A}; I_B = 0.3\text{A}$		1.1	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = 4\text{A}; V_{CE} = 2\text{V}$		1.6	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = 80\text{V}; I_E = 0$		1.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 5\text{V}; I_C = 0$		2.0	mA
h_{FE-1}	DC Current Gain	$I_C = 2\text{A}; V_{CE} = 2\text{V}$	30		
h_{FE-2}	DC Current Gain	$I_C = 4\text{A}; V_{CE} = 2\text{V}$	15		
f_T	Current-Gain—Bandwidth Product	$I_C = 1.0\text{A}; V_{CE} = 10\text{V}; f_{test} = 1.0\text{MHz}$	1.5		MHz