

SPTECH Silicon NPN Power Transistor

BD909

DESCRIPTION

- DC Current Gain -
: $h_{FE} = 40(\text{Min.}) @ I_C = 0.5A$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 80V(\text{Min})$
- Complement to Type BD910

APPLICATIONS

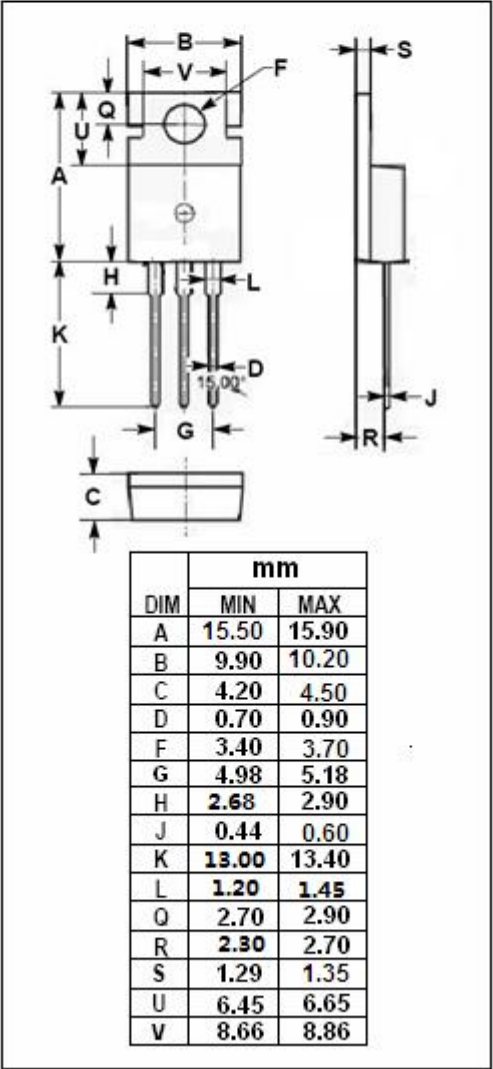
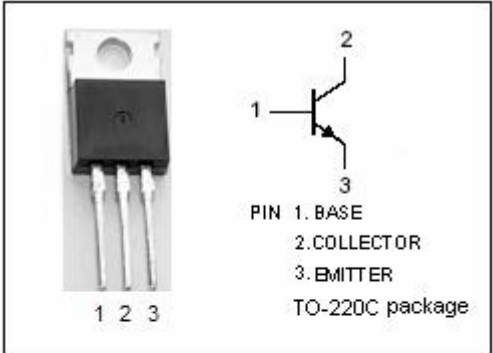
- Designed for use in general purpose power amplifier and switching applications.

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	15	A
I_{CM}	Collector Current-Peak	20	A
I_B	Base Current	5	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	-65~150	$^{\circ}C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.38	$^{\circ}C/W$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=30\text{mA}; I_B=0$	80		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=0.5\text{A}$		1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=2.5\text{A}$		3.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=2.5\text{A}$		2.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=5\text{A}; V_{CE}=4\text{V}$		1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=80\text{V}; I_E=0$		0.5	mA
I_{CEO}	Collector Cutoff Current	$V_{CE}=40\text{V}; I_B=0$		1.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$		1.0	mA
h_{FE-1}	DC Current Gain	$I_C=0.5\text{A}; V_{CE}=4\text{V}$	40	250	
h_{FE-2}	DC Current Gain	$I_C=5\text{A}; V_{CE}=4\text{V}$	15	150	
h_{FE-3}	DC Current Gain	$I_C=10\text{A}; V_{CE}=4\text{V}$	5		
f_T	Current-Gain—Bandwidth Product	$I_C=0.5\text{A}; V_{CE}=4\text{V}; f_{test}=1.0\text{MHz}$	3.0		MHz