

**isc Silicon NPN Power Transistor**
**BD841**
**DESCRIPTION**

- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 60V(\text{Min})$
- High DC Current Gain
- Low Saturation Voltage
- Complement to Type BD842
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

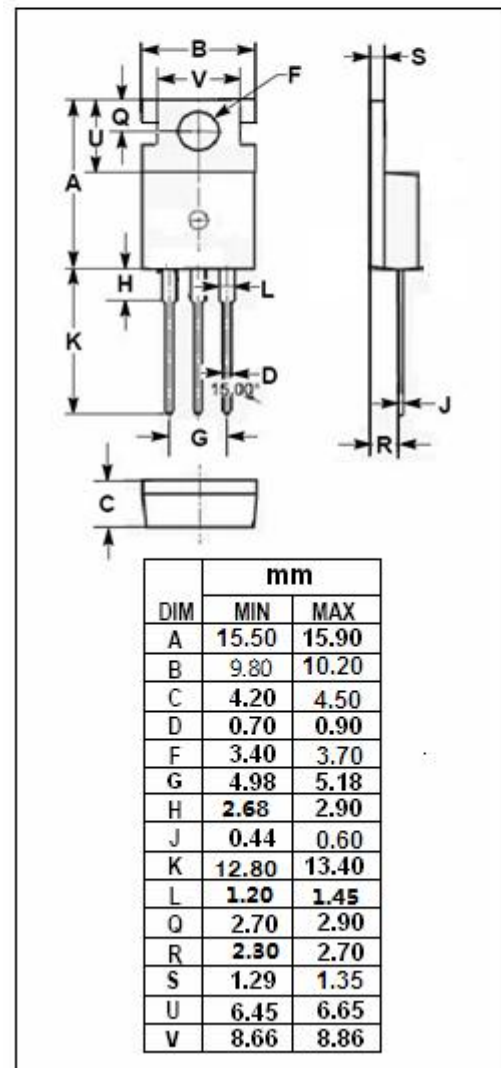
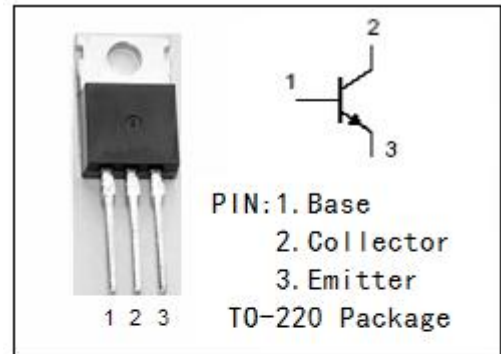
- Designed for use in television circuits and audio applications

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{CEO}$	Collector-Emitter Voltage	60	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	1.5	A
$I_{CP}$	Collector Current-Peak	3.0	A
$P_C$	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	2	W
	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	10	
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	12.5	$^\circ\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ\text{C/W}$



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**ELECTRICAL CHARACTERISTICS**

 T<sub>C</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 30mA; I <sub>B</sub> = 0	60			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 1A; I <sub>B</sub> = 100mA			0.8	V
V <sub>BE(on)</sub>	Base-Emitter On Voltage	I <sub>C</sub> = 1A; V <sub>CE</sub> = 2V			1.3	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 30V; I <sub>E</sub> = 0			0.1	μA
		V <sub>CB</sub> = 30V; I <sub>E</sub> = 0; T <sub>C</sub> = 125°C			10	
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			10	μA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 5mA; V <sub>CE</sub> = 2V	25			
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 150mA; V <sub>CE</sub> = 2V	40		250	
h <sub>FE-3</sub>	DC Current Gain	I <sub>C</sub> = 1A; V <sub>CE</sub> = 2V	25			
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 50mA; V <sub>CE</sub> = 5V		125		MHz

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