

isc Silicon NPN Power Transistor

BD241/A/B/C

DESCRIPTION

- DC Current Gain $-h_{FE} = 25(\text{Min})@ I_C = 1.0\text{A}$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(\text{SUS})} = 45\text{V}(\text{Min})$ - BD241; $60\text{V}(\text{Min})$ - BD241A
80V(Min)- BD241B; $100\text{V}(\text{Min})$ - BD241C
- Complement to Type BD242/A/B/C
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

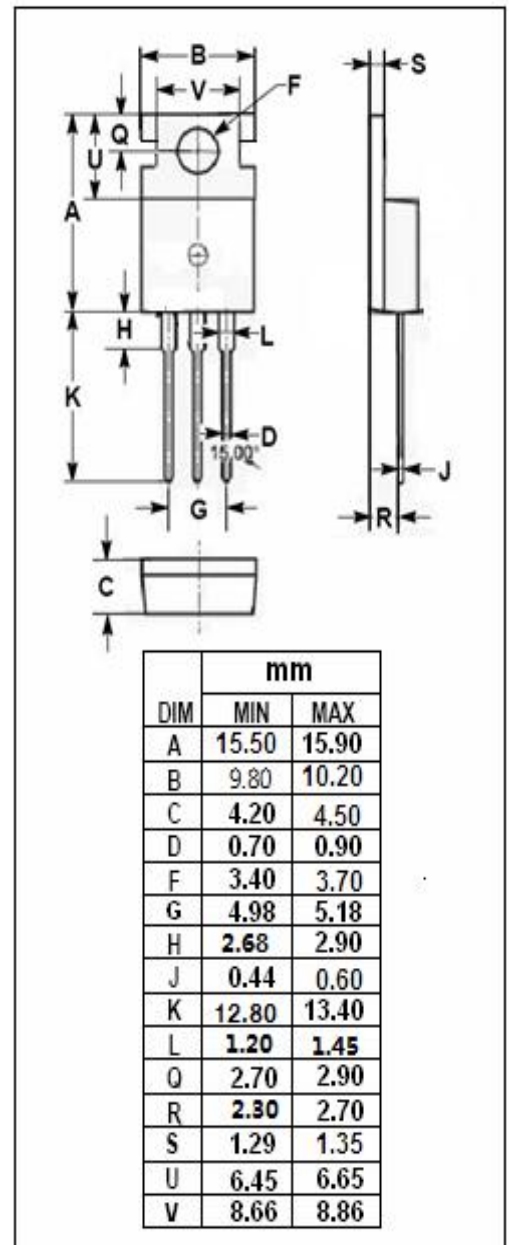
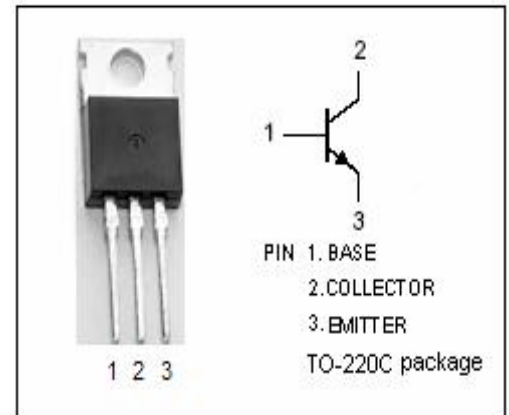
- Designed for use in general purpose power amplifier and switching applications

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

SYMBOL	PARAMETER		VALUE	UNIT
V _{CBO}	Collector-Base Voltage	BD241	55	V
		BD241A	70	
		BD241B	90	
		BD241C	115	
V _{CEO}	Collector-Emitter Voltage	BD241	45	V
		BD241A	60	
		BD241B	80	
		BD241C	100	
V _{EBO}	Emitter-Base Voltage		5	V
I _C	Collector Current-Continuous		3.0	A
I _{CM}	Collector Current-Peak		5.0	A
I _B	Base Current		1.0	A
P _C	Collector Power Dissipation @ T _C =25°C		40	W
T _J	Junction Temperature		150	°C
T _{stg}	Storage Temperature Range		-65~150	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	3.125	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER		CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	BD241	$I_C = 30\text{mA}; I_B = 0$	45		V
		BD241A		60		
		BD241B		80		
		BD241C		100		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage		$I_C = 3\text{A}; I_B = 0.6\text{A}$		1.2	V
$V_{BE(on)}$	Base-Emitter On Voltage		$I_C = 3\text{A}; V_{CE} = 4\text{V}$		1.8	V
I_{CES}	Collector Cutoff Current	BD241	$V_{CE} = 45\text{V}; V_{BE} = 0$		0.2	mA
		BD241A	$V_{CE} = 60\text{V}; V_{BE} = 0$			
		BD241B	$V_{CE} = 80\text{V}; V_{BE} = 0$			
		BD241C	$V_{CE} = 100\text{V}; V_{BE} = 0$			
I_{CEO}	Collector Cutoff Current	BD241/A	$V_{CE} = 30\text{V}; I_B = 0$		0.3	mA
		BD241B/C	$V_{CE} = 60\text{V}; I_B = 0$			
I_{EBO}	Emitter Cutoff Current		$V_{EB} = 5\text{V}; I_C = 0$		1.0	mA
h_{FE-1}	DC Current Gain		$I_C = 1\text{A}; V$	25		
h_{FE-2}	DC Current Gain		$I_C = 3\text{A}; V_{CE} = 4\text{V}$	10		
f_T	Current-Gain—Bandwidth Product		$I_C = 0.5\text{A}; V_{CE} = 10\text{V}, f_{test} = 1.0\text{MHz}$	3.0		MHz

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