

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

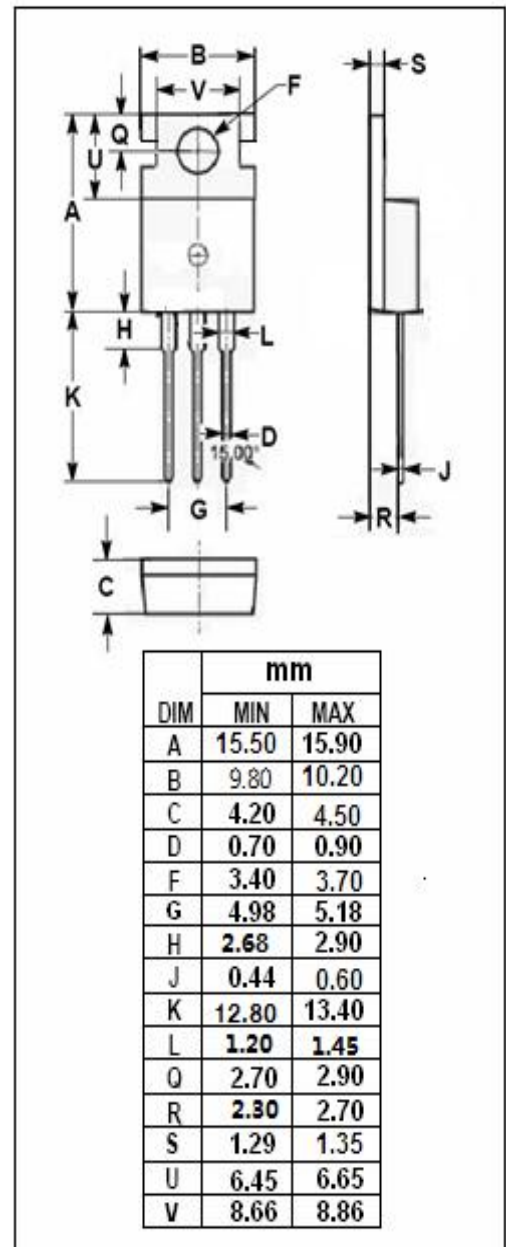
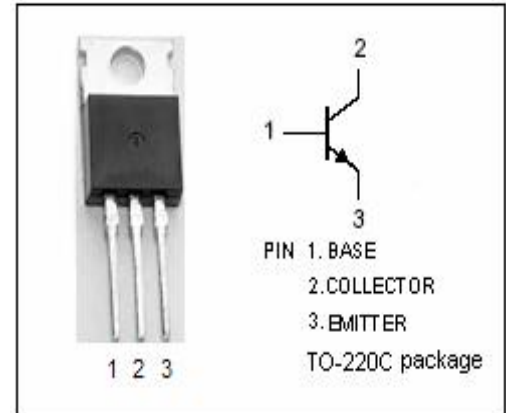
- Designed for use in general purpose power amplifier and switching applications

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 @ $T_C=25^\circ\text{C}$	40	W	
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	3.125	$^\circ\text{C}/\text{W}$



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ELECTRICAL CHARACTERISTICS

 T_C=25°C unless otherwise specified

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

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