

isc Silicon PNP Power Transistor
BD242/A/B/C
DESCRIPTION

- DC Current Gain $-h_{FE} = 25(\text{Min})@ I_C = -1.0\text{A}$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(\text{SUS})} = -45\text{V}(\text{Min})$ - BD242; $-60\text{V}(\text{Min})$ - BD242A
 $-80\text{V}(\text{Min})$ - BD242B; $-100\text{V}(\text{Min})$ - BD242C
- Complement to Type BD241/A/B/C
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

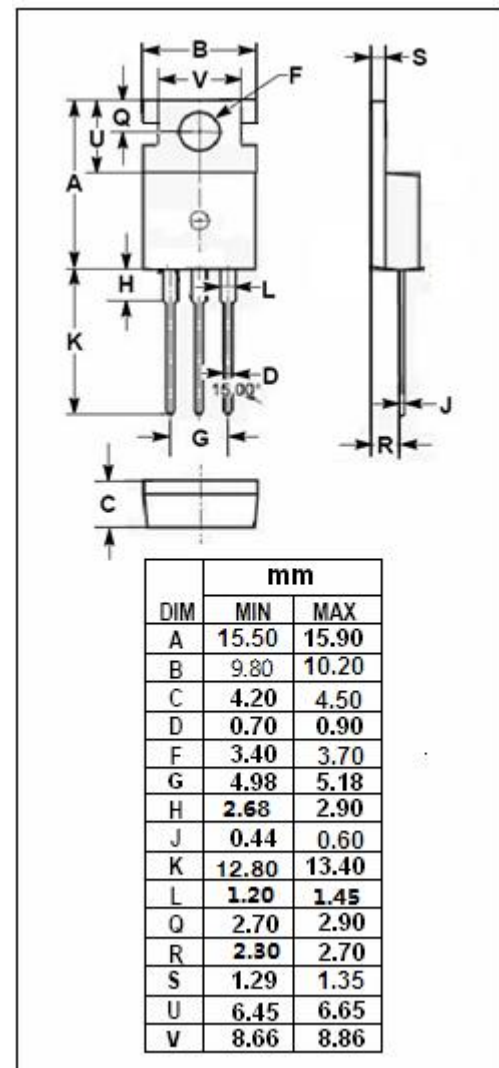
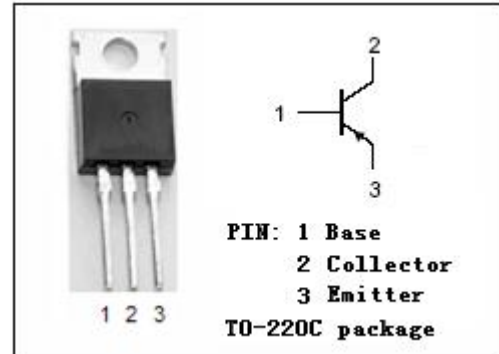
- Designed for use in general purpose power amplifier and switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT	
V_{CBO}	Collector-Base Voltage	BD242	-55	V
		BD242A	-70	
		BD242B	-90	
		BD242C	-115	
V_{CEO}	Collector-Emitter Voltage	BD242	-45	V
		BD242A	-60	
		BD242B	-80	
		BD242C	-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	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER		CONDITIONS	MIN	MAX	UNIT
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	BD242	$I_C = -30\text{mA}; I_B = 0$	-45		V
		BD242A		-60		
		BD242B		-80		
		BD242C		-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	BD242	$V_{CE} = -45\text{V}; V_{BE} = 0$		-0.2	mA
		BD242A	$V_{CE} = -60\text{V}; V_{BE} = 0$			
		BD242B	$V_{CE} = -80\text{V}; V_{BE} = 0$			
		BD242C	$V_{CE} = -100\text{V}; V_{BE} = 0$			
I_{CEO}	Collector Cutoff Current	BD242/A	$V_{CE} = -30\text{V}; I_B = 0$		-0.3	mA
		BD242B/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		$I_C = -1\text{A}; V_{CE} = -4\text{V}$	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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