

isc Silicon PNP Power Transistor

BD246/A/B/C

DESCRIPTION

- Collector Current  $-I_C = -10A$
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = -45V(\text{Min})$ - BD246;  $-60V(\text{Min})$ - BD246A  
 $-80V(\text{Min})$ - BD246B;  $-100V(\text{Min})$ - BD246C
- Complement to Type BD245/A/B/C

APPLICATIONS

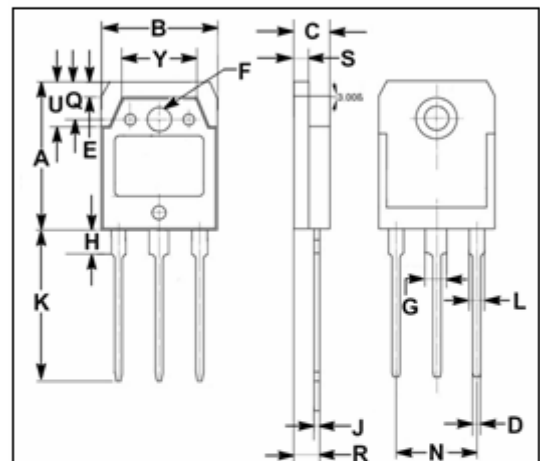
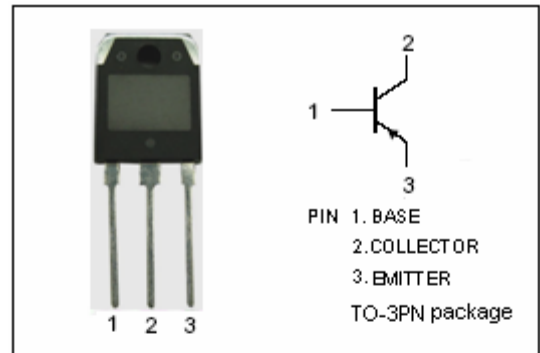
- Designed for use in general purpose power amplifier and switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT	
$V_{CER}$	Collector-Emitter Voltage ( $R_{BE} = 100\Omega$ )	BD246	-55	V
		BD246A	-70	
		BD246B	-90	
		BD246C	-115	
$V_{CEO}$	Collector-Emitter Voltage	BD246	-45	V
		BD246A	-60	
		BD246B	-80	
		BD246C	-100	
$V_{EBO}$	Emitter-Base Voltage	-5	V	
$I_C$	Collector Current-Continuous	-10	A	
$I_{CM}$	Collector Current-Peak	-15	A	
$I_B$	Base Current	-3	A	
$P_C$	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	3	W	
	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	80		
$T_J$	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	1.56	$^\circ\text{C}/\text{W}$



DIM	mm	
	MIN	MAX
A	19.90	20.10
B	15.50	15.70
C	4.70	4.90
D	0.90	1.10
E	1.90	2.10
F	3.40	3.60
G	2.90	3.10
H	3.20	3.40
J	0.595	0.605
K	20.50	20.70
L	1.90	2.10
N	10.89	10.91
Q	4.90	5.10
R	3.35	3.45
S	1.995	2.005
U	5.90	6.10
Y	9.90	10.10

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## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	BD246	$I_C = -30\text{mA}; I_B = 0$	-45			V
		BD246A		-60			
		BD246B		-80			
		BD246C		-100			
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage		$I_C = -3\text{A}; I_B = -0.3\text{A}$			-1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage		$I_C = -10\text{A}; I_B = -2.5\text{A}$			-4.0	V
$V_{BE(on)-1}$	Base-Emitter On Voltage		$I_C = -3\text{A}; V_{CE} = -4\text{V}$			-1.6	V
$V_{BE(on)-2}$	Base-Emitter On Voltage		$I_C = -10\text{A}; V_{CE} = -4\text{V}$			-3.0	V
$I_{CES}$	Collector Cutoff Current	BD246	$V_{CE} = -55\text{V}; V_{BE} = 0$			-0.4	mA
		BD246A	$V_{CE} = -70\text{V}; V_{BE} = 0$				
		BD246B	$V_{CE} = -90\text{V}; V_{BE} = 0$				
		BD246C	$V_{CE} = -115\text{V}; V_{BE} = 0$				
$I_{CEO}$	Collector Cutoff Current	BD246/A	$V_{CE} = -30\text{V}; I_B = 0$			-0.7	mA
		BD246B/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		$I_C = -1\text{A}; V_{CE} = -4\text{V}$	40			
$h_{FE-2}$	DC Current Gain		$I_C = -3\text{A}; V_{CE} = -4\text{V}$	20			
$h_{FE-3}$	DC Current Gain		$I_C = -10\text{A}; V_{CE} = -4\text{V}$	4			
$f_T$	Current-Gain—Bandwidth Product		$I_C = -0.5\text{A}; V_{CE} = -10\text{V}, f_{\text{test}} = 1.0\text{MHz}$	3.0			MHz

## Switching times

$t_{on}$	Turn-on Time	$I_C = -1\text{A}; I_{B1} = -I_{B2} = -0.1\text{A}; R_L = 20\Omega; V_{BE(OFF)} = 3.7\text{V}$		0.2		$\mu\text{s}$
$t_{off}$	Turn-off Time			0.8		$\mu\text{s}$

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