

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

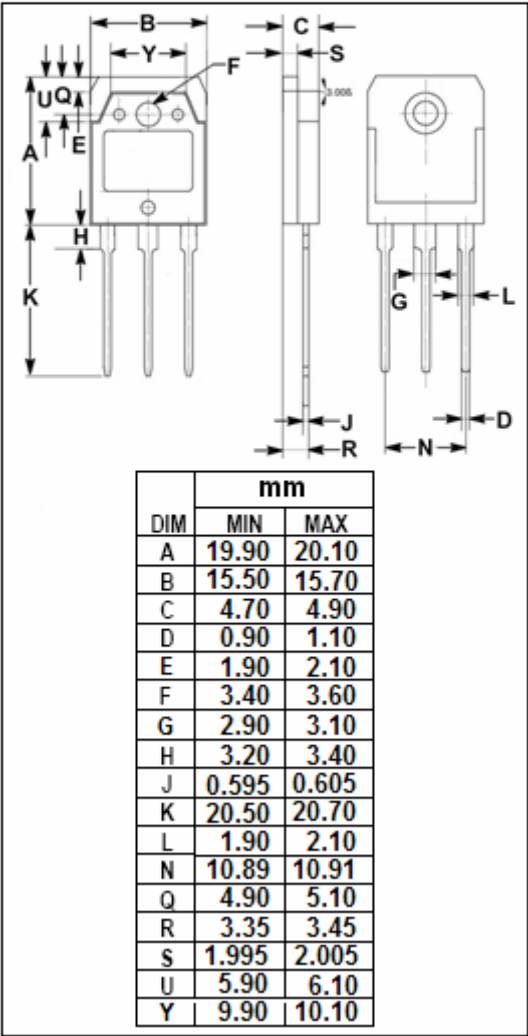
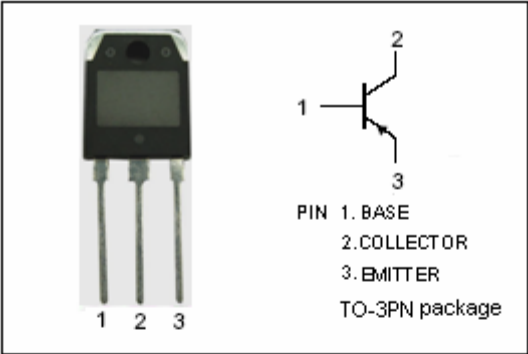
- Designed for use in general purpose power amplifier and switching applications

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

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 @ $T_a=25^{\circ}C$		3	W
	Collector Power Dissipation @ $T_C=25^{\circ}C$		80	
T_J	Junction Temperature		150	$^{\circ}C$
T_{stg}	Storage Temperature Range		-65~150	$^{\circ}C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.56	$^{\circ}C/W$



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ELECTRICAL CHARACTERISTICS

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

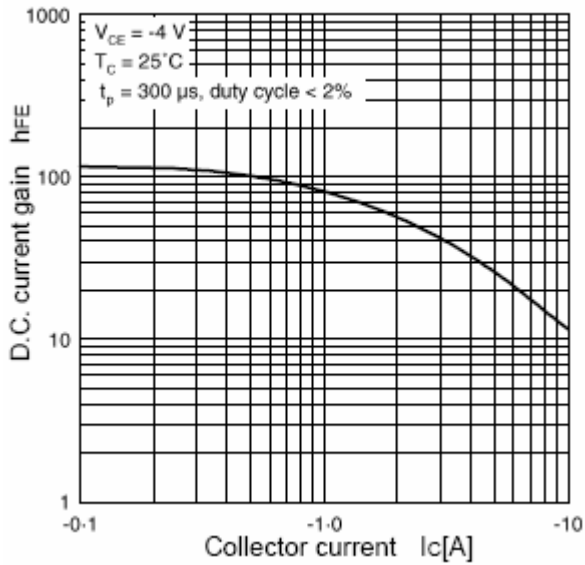
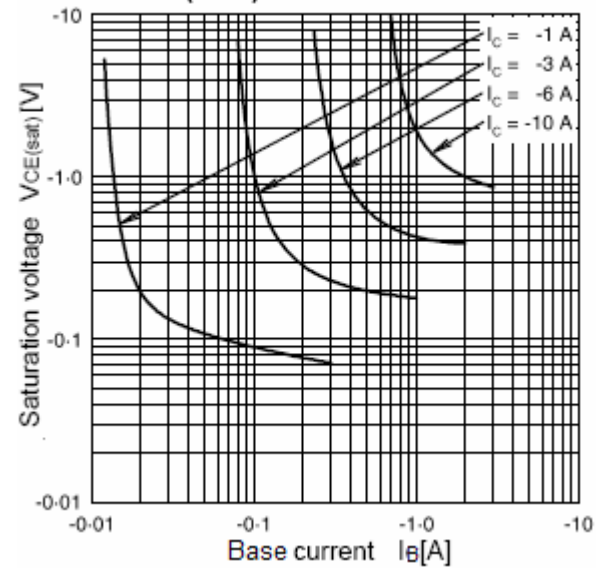
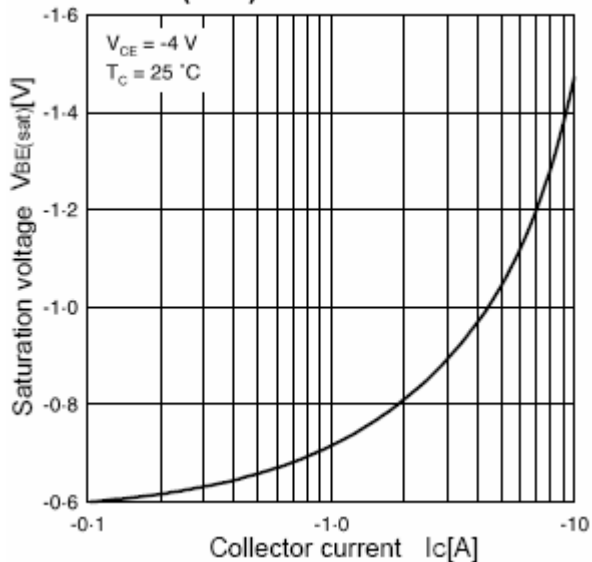
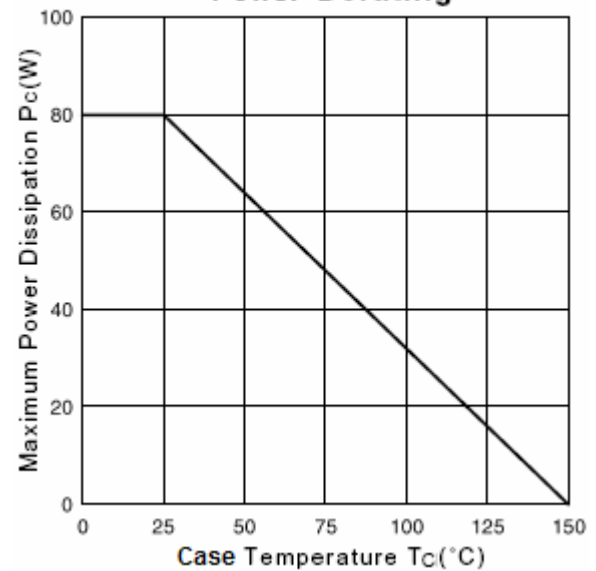
SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	BD246	$I_C = -30\text{mA}; I_B = 0$	-45			V
		BD246A		-60			
		BD246B		-80			
		BD246C		-100			
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage		$I_C = -3\text{A}; I_B = -0.3\text{A}$			-1.0	V
$V_{CE(sat)-2}$	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	$I_C = -1\text{A}; I_{B1} = -I_{B2} = -0.1\text{A};$ $R_L = 20\Omega; V_{BE(ON)} = 3.7\text{V}$		0.2		μs
t_{off}	Turn-off Time			0.8		μs

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 h_{FE} – I_C Characteristics **$V_{CE(sat)}$ – I_B Characteristics** **$V_{BE(sat)}$ – I_C Characteristics****Power Derating****Safe Operating Area**