

isc Silicon PNP Power Transistor

BD546/A/B/C

DESCRIPTION

- Collector Current $-I_C = -15A$
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = -40V(\text{Min})$ - BD546; $-60V(\text{Min})$ - BD546A
 $-80V(\text{Min})$ - BD546B; $-100V(\text{Min})$ - BD546C
- Complement to Type BD545/A/B/C

APPLICATIONS

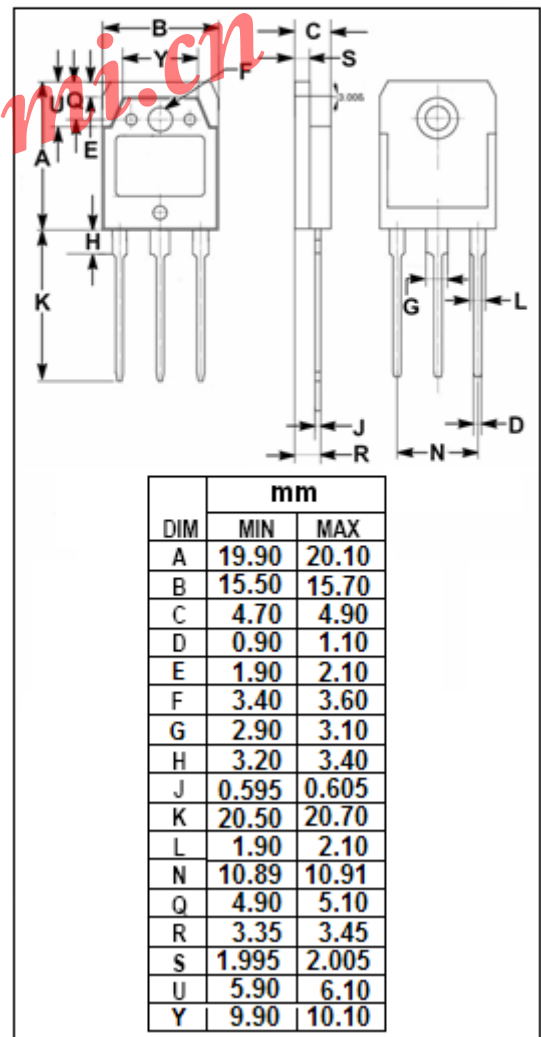
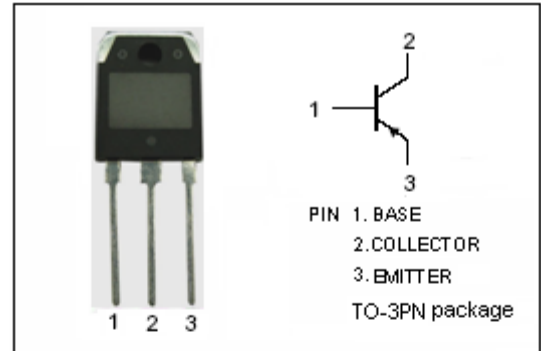
- Designed for use in general purpose power amplifier and switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT	
V_{CBO}	Collector-Base Voltage	BD546	-40	V
		BD546A	-60	
		BD546B	-80	
		BD546C	-100	
V_{CEO}	Collector-Emitter Voltage	BD546	-40	V
		BD546A	-60	
		BD546B	-80	
		BD546C	-100	
V_{EBO}	Emitter-Base Voltage	-5	V	
I_C	Collector Current-Continuous	-15	A	
P_C	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	3.5	W	
	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	85		
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	1.47	$^\circ\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	35.7	$^\circ\text{C/W}$



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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	BD546	$I_C = -30\text{mA}; I_B = 0$	-40			V
		BD546A		-60			
		BD546B		-80			
		BD546C		-100			
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage		$I_C = -5\text{A}; I_B = -0.625\text{A}$			-0.8	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage		$I_C = -10\text{A}; I_B = -2\text{A}$			-1.0	V
$V_{BE(on)}$	Base-Emitter On Voltage		$I_C = -10\text{A}; V_{CE} = -4\text{V}$			-1.8	V
I_{CES}	Collector Cutoff Current	BD546	$V_{CE} = -40\text{V}; V_{BE} = 0$			-0.4	mA
		BD546A		$V_{CE} = -60\text{V}; V_{BE} = 0$			
		BD546B		$V_{CE} = -80\text{V}; V_{BE} = 0$			
		BD546C		$V_{CE} = -100\text{V}; V_{BE} = 0$			
I_{CEO}	Collector Cutoff Current	BD546/A	$V_{CE} = -30\text{V}; I_B = 0$			-0.7	mA
		BD546B/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		$I_C = -1\text{A}; V_{CE} = -4\text{V}$	60			
h_{FE-2}	DC Current Gain		$I_C = -5\text{A}; V_{CE} = -4\text{V}$	25			
h_{FE-3}	DC Current Gain		$I_C = -10\text{A}; V_{CE} = -4\text{V}$	10			

Switching times

t_{on}	Turn-on Time	$I_C = -6\text{A}; I_{B1} = -I_{B2} = -0.6\text{A};$ $R_L = 5\ \Omega; V_{BE(off)} = 4\text{V}$		0.4		μs
t_{off}	Turn-off Time			0.7		μs