

isc Silicon PNP Darlington Power Transistor

BDX66/A/B/C

DESCRIPTION

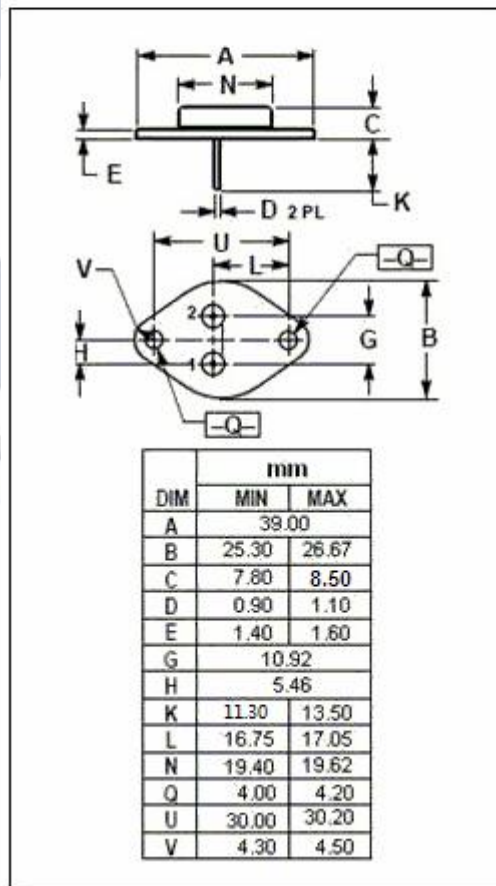
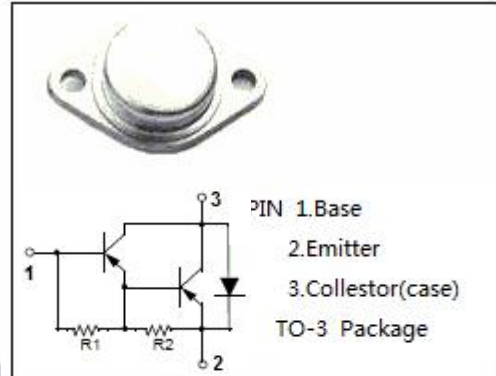
- Collector Current $I_C = -16A$
- High DC Current Gain $h_{FE} = 1000(\text{Min}) @ I_C = -10A$
- Complement to Type BDX67/A/B/C

APPLICATIONS

- Designed for audio output stages and general amplifier and switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT	
V_{CBO}	Collector-Base Voltage	BDX66	-80	V
		BDX66A	-100	
		BDX66B	-120	
		BDX66C	-140	
V_{CEO}	Collector-Emitter Voltage	BDX66	-60	V
		BDX66A	-80	
		BDX66B	-100	
		BDX66C	-120	
V_{EBO}	Emitter-Base Voltage	-5	V	
I_C	Collector Current-Continuous	-16	A	
I_{CM}	Collector Current-Peak	-20	A	
I_B	Base Current-Continuous	-0.25	A	
P_C	Collector Power Dissipation @ $T_C=25^\circ C$	150	W	
T_J	Junction Temperature	200	$^\circ C$	
T_{stg}	Storage Temperature Range	-55~200	$^\circ C$	



THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.17	$^\circ C/W$

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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	BDX66	$I_C = -50\text{mA}; I_B = 0$	-60			V
		BDX66A		-80			
		BDX66B		-100			
		BDX66C		-120			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage		$I_C = -10\text{A}; I_B = -40\text{mA}$			-2	V
$V_{BE(on)}$	Base-Emitter On Voltage		$I_C = -10\text{A}; V_{CE} = -3\text{V}$			-2.5	V
V_{ECF}	C-E Diode Forward Voltage		$I_F = -10\text{A}$		-2		V
I_{CEO}	Collector Cutoff Current		$V_{CE} = \frac{1}{2}V_{CE0max}; I_B = 0$			-1	mA
I_{CBO}	Collector Cutoff Current	BDX66	$V_{CB} = -40\text{V}; I_E = 0; T_J = 150^\circ\text{C}$			-5	mA
		BDX66A	$V_{CB} = -50\text{V}; I_E = 0; T_J = 150^\circ\text{C}$				
		BDX66B	$V_{CB} = -60\text{V}; I_E = 0; T_J = 150^\circ\text{C}$				
		BDX66C	$V_{CB} = -70\text{V}; I_E = 0; T_J = 150^\circ\text{C}$				
I_{CBO}	Collector Cutoff Current		$V_{CB} = V_{CB0max}; I_E = 0$			-1	mA
I_{EBO}	Emitter Cutoff Current		$V_{EB} = -5\text{V}; I_C = 0$			-5	mA
h_{FE-1}	DC Current Gain		$I_C = -1\text{A}; V_{CE} = -3\text{V}$		2000		
h_{FE-2}	DC Current Gain		$I_C = -10\text{A}; V_{CE} = -3\text{V}$	1000			
h_{FE-3}	DC Current Gain		$I_C = -16\text{A}; V_{CE} = -3\text{V}$		1000		
C_{OB}	Output Capacitance		$I_E = 0; V_{CB} = -10\text{V}; f_{test} = 1\text{MHz}$		300		pF

Switching times

t_{on}	Turn-on Time	$I_C = -10\text{A}; I_{B1} = -I_{B2} = -40\text{mA}$		1		μs
t_{off}	Turn-off Time			3.5		μs