

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

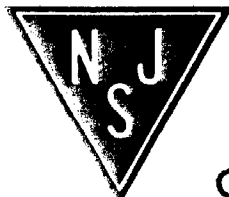
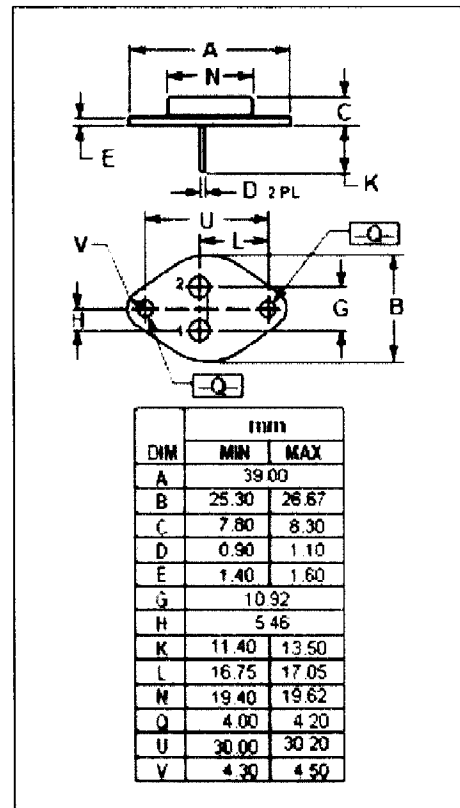
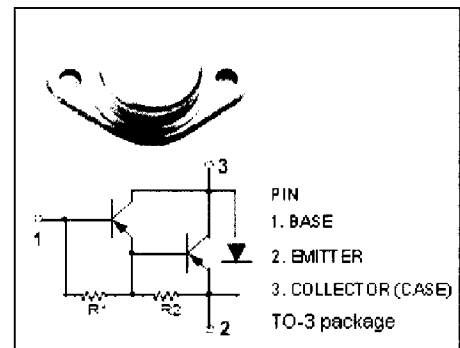
- Designed for audio output stages and general amplifier and switching applications

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	-65~200	$^\circ C$	

THERMAL CHARACTERISTICS

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



NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

Quality Semi-Conductors

Silicon PNP Darlington Power Transistor

BDX66/A/B/C

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	-60			V	
		BDX66A	-80				
		BDX66B	-100				
		BDX66C	-120				
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -10A; I_B = -40mA$			-2	V	
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -10A; V_{CE} = -3V$			-2.5	V	
V_{ECF}	C-E Diode Forward Voltage	$I_F = -10A$		-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	$V_{CB} = -40V; I_E = 0; T_J = 200^\circ\text{C}$			-5	mA
		BDX66A	$V_{CB} = -50V; I_E = 0; T_J = 200^\circ\text{C}$				
		BDX66B	$V_{CB} = -60V; I_E = 0; T_J = 200^\circ\text{C}$				
		BDX66C	$V_{CB} = -70V; I_E = 0; T_J = 200^\circ\text{C}$				
I_{CBO}	Collector Cutoff Current	$V_{CB} = V_{CB0max}; I_E = 0$			-1	mA	
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -5V; I_C = 0$			-5	mA	
h_{FE-1}	DC Current Gain	$I_C = -1A; V_{CE} = -3V$		2000			
h_{FE-2}	DC Current Gain	$I_C = -10A; V_{CE} = -3V$	1000				
h_{FE-3}	DC Current Gain	$I_C = -16A; V_{CE} = -3V$		1000			
C_{OB}	Output Capacitance	$I_E = 0; V_{CB} = -10V; f_{test} = 1\text{MHz}$		300		pF	

Switching times

Symbol	Parameter	Conditions	MIN	TYP.	MAX	UNIT
t_{on}	Turn-on Time	$I_C = -10A; I_{B1} = -I_{B2} = -40mA$		1		μs
t_{off}	Turn-off Time			3.5		μs