

**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**

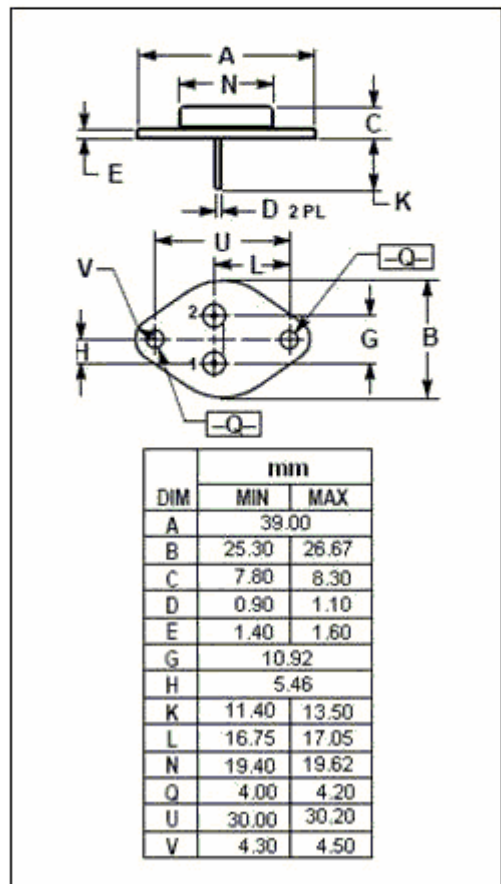
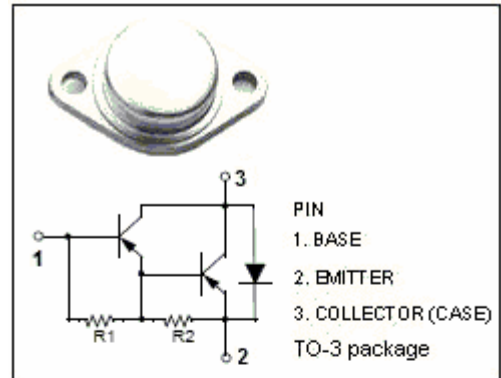
- Designed for audio output stages and general amplifier and switching applications

**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	-65~200	$^\circ C$	

**THERMAL CHARACTERISTICS**

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



## isc 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	$I_C = -100\text{mA}; I_B = 0$	-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	$V_{CB} = -40\text{V}; I_E = 0; T_J = 200^\circ\text{C}$			-5	mA
		BDX66A	$V_{CB} = -50\text{V}; I_E = 0; T_J = 200^\circ\text{C}$				
		BDX66B	$V_{CB} = -60\text{V}; I_E = 0; T_J = 200^\circ\text{C}$				
		BDX66C	$V_{CB} = -70\text{V}; I_E = 0; T_J = 200^\circ\text{C}$				
$I_{CBO}$	Collector Cutoff Current		$V_{CB} = V_{CBOmax}; I_E = 0$			-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		$\mu\text{s}$
$t_{off}$	Turn-off Time			3.5		$\mu\text{s}$