

**Silicon PNP Darlington Power Transistor**

**BDX64/A/B/C**

**DESCRIPTION**

- Collector Current  $-I_C = -12A$
- High DC Current Gain  $-h_{FE} = 1000(\text{Min}) @ I_C = -5A$
- Complement to Type BDX65/A/B/C

**APPLICATIONS**

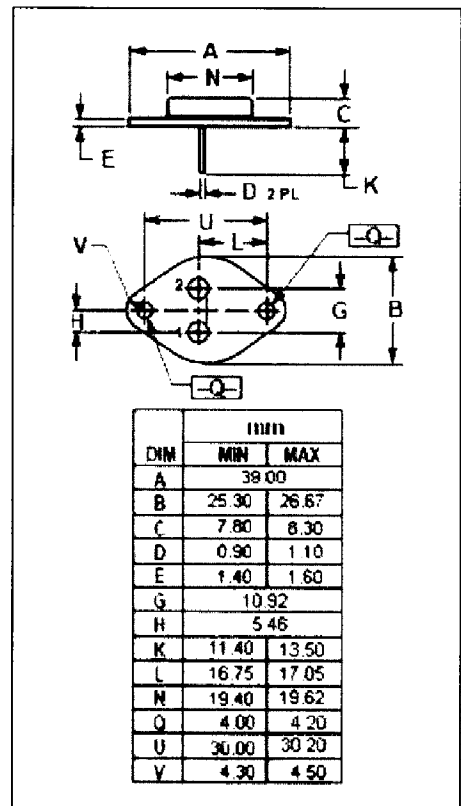
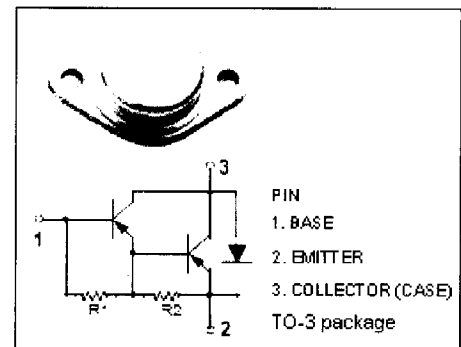
- Designed for audio output stages and general amplifier and switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT	
$V_{CBO}$	Collector-Base Voltage	BDX64	-80	V
		BDX64A	-100	
		BDX64B	-120	
		BDX64C	-140	
$V_{CEO}$	Collector-Emitter Voltage	BDX64	-60	V
		BDX64A	-80	
		BDX64B	-100	
		BDX64C	-120	
$V_{EBO}$	Emitter-Base Voltage	-5	V	
$I_C$	Collector Current-Continuous	-12	A	
$I_{CM}$	Collector Current-Peak	-16	A	
$I_B$	Base Current-Continuous	-0.2	A	
$P_C$	Collector Power Dissipation @ $T_C = 25^\circ C$	117	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	1.5	$^\circ C/W$



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# Silicon PNP Darlington Power Transistor

# BDX64/A/B/C

## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT	
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	BDX64	-60			V	
		BDX64A	-80				
		BDX64B	-100				
		BDX64C	-120				
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -5A; I_B = -20mA$			-2	V	
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -5A; V_{CE} = -3V$			-2.5	V	
$V_{ECF}$	C-E Diode Forward Voltage	$I_F = -5A$			-1.8	V	
$I_{CEO}$	Collector Cutoff Current	$V_{CE} = \frac{1}{2}V_{CEOmax}; I_B = 0$			-0.2	mA	
$I_{CBO}$	Collector Cutoff Current	$V_{CB} = V_{CB0max}; I_E = 0$			-0.4	mA	
$I_{CBO}$	Collector Cutoff Current	BDX64	$V_{CB} = -40V; I_E = 0; T_J = 200^\circ\text{C}$			-3	mA
		BDX64A	$V_{CB} = -50V; I_E = 0; T_J = 200^\circ\text{C}$				
		BDX64B	$V_{CB} = -60V; I_E = 0; T_J = 200^\circ\text{C}$				
		BDX64C	$V_{CB} = -70V; I_E = 0; T_J = 200^\circ\text{C}$				
$I_{EBO}$	Emitter Cutoff Current	$V_{EB} = -5V; I_C = 0$			-5	mA	
$h_{FE-1}$	DC Current Gain	$I_C = -1A; V_{CE} = -3V$		1500			
$h_{FE-2}$	DC Current Gain	$I_C = -5A; V_{CE} = -3V$	1000				
$h_{FE-3}$	DC Current Gain	$I_C = -12A; V_{CE} = -3V$		750			
$C_{OB}$	Output Capacitance	$I_E = 0; V_{CB} = -10V; f_{test} = 1\text{MHz}$		200		pF	

### Switching times

$t_{on}$	Turn-on Time	$I_C = -5A; I_{B1} = -I_{B2} = -20mA$	1	$\mu\text{s}$
$t_{off}$	Turn-off Time		2.5	$\mu\text{s}$