

Silicon PNP Darlington Power Transistor

BDX84/A/B/C

DESCRIPTION

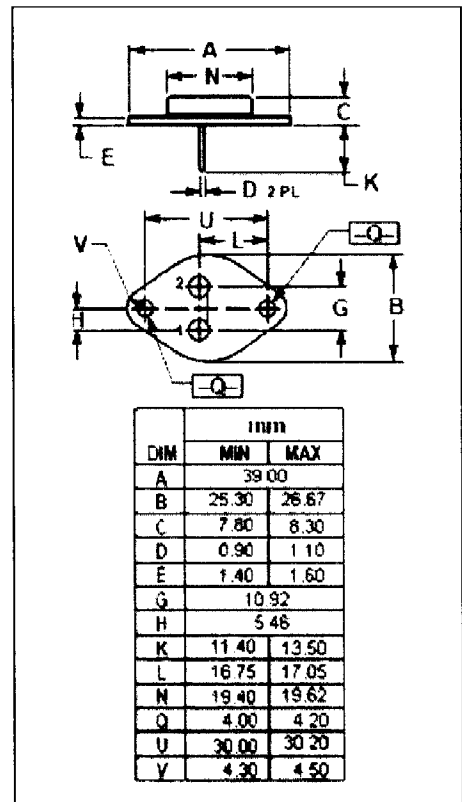
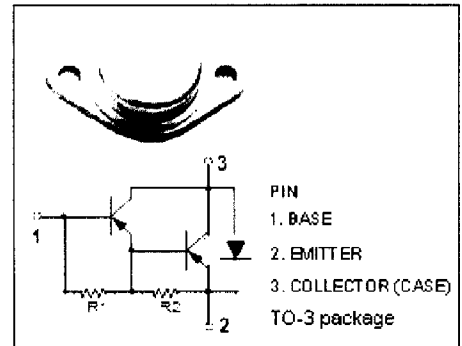
- High DC Current Gain-
: $h_{FE} = 1000(\text{Min}) @ I_C = -5A$
- Collector-Emitter Sustaining Voltage-
: $V_{CE0(SUS)} = -45V(\text{Min})$ - BDX84; $-60V(\text{Min})$ - BDX84A
 $-80V(\text{Min})$ - BDX84B; $-100V(\text{Min})$ - BDX84C

APPLICATIONS

- Power switching
- Hammer drivers
- Series and shunt regulators
- Audio amplifiers

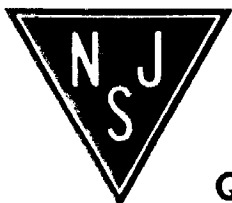
ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT	
V_{CBO}	Collector-Base Voltage	BDX84	-45	V
		BDX84A	-60	
		BDX84B	-80	
		BDX84C	-100	
V_{CEO}	Collector-Emitter Voltage	BDX84	-45	V
		BDX84A	-60	
		BDX84B	-80	
		BDX84C	-100	
V_{EBO}	Emitter-Base Voltage	-5	V	
I_C	Collector Current-Continuous	-10	A	
I_{CM}	Collector Current-Peak	-15	A	
I_B	Base Current	-250	mA	
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	125	W	
T_J	Junction Temperature	200	$^\circ\text{C}$	
T_{stg}	Storage Temperature Range	-65~200	$^\circ\text{C}$	



THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	1.4	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	BDX84	$I_C = -100\text{mA}; I_B = 0$			V
		BDX84A		-45		
		BDX84B		-60		
		BDX84C		-80		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -5\text{A}; I_B = -10\text{mA}$			-2.0	V
$V_{BE(on)-1}$	Base-Emitter On Voltage	$I_C = -5\text{A}; V_{CE} = -3\text{V}$			-2.8	V
$V_{BE(on)-2}$	Base-Emitter On Voltage	$I_C = -10\text{A}; V_{CE} = -3\text{V}$			-4.5	V
I_{CEV}	Collector Cutoff Current	BDX84			-0.5	mA
		BDX84A			-3.0	
		BDX84B			-0.5	
		BDX84C			-3.0	
I_{CEO}	Collector Cutoff Current	BDX84			-1.0	mA
		BDX84A			-3.0	
		BDX84B			-4.0	
		BDX84C			-5.0	
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -5\text{V}; I_C = 0$			-5.0	mA
h_{FE-1}	DC Current Gain	$I_C = -1\text{A}; V_{CE} = -3\text{V}$	750			
h_{FE-2}	DC Current Gain	$I_C = -5\text{A}; V_{CE} = -3\text{V}$	1000			
h_{FE-3}	DC Current Gain	$I_C = -10\text{A}; V_{CE} = -3\text{V}$	250			