

Silicon NPN Darlington Power Transistor

BDX69/A/B/C

DESCRIPTION

- High DC Current Gain-
: $h_{FE} = 1000(\text{Min}) @ I_C = 20A$
- Low Saturation Voltage
- Complement to Type BDX68/A/B/C

APPLICATIONS

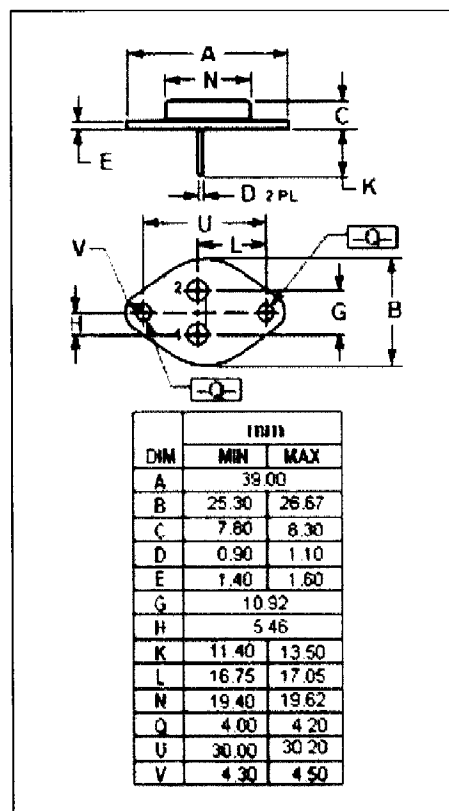
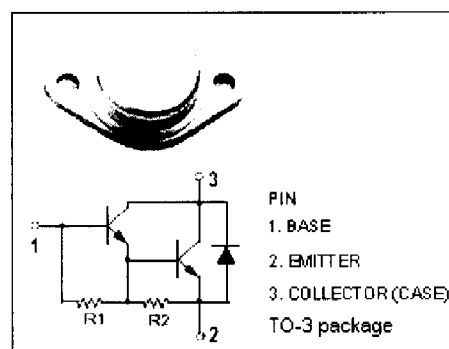
- Designed for audio output stages and general amplifier and switching applications

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

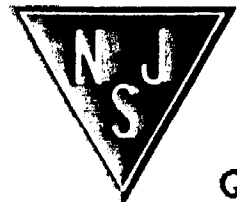
SYMBOL	PARAMETER	VALUE	UNIT	
V_{CBO}	Collector-Base Voltage	BDX69	80	V
		BDX69A	100	
		BDX69B	120	
		BDX69C	140	
V_{CEO}	Collector-Emitter Voltage	BDX69	60	V
		BDX69A	80	
		BDX69B	100	
		BDX69C	120	
V_{EBO}	Emitter-Base Voltage	5	V	
I_C	Collector Current-Continuous	25	A	
I_{CM}	Collector Current-Peak	40	A	
I_B	Base Current	500	mA	
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	150	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	0.875	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	BDX69	$I_C = 100\text{mA}; L = 25\text{mH}$			V
		BDX69A				
		BDX69B				
		BDX69C				
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 20\text{A}; I_B = 80\text{mA}$			2.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = 20\text{A}; V_{CE} = 3\text{V}$			2.5	V
I_{CBO}	Collector Cutoff Current	BDX69			2.0 10	mA
		BDX69A				
		BDX69B				
		BDX69C				
I_{CEO}	Collector Cutoff Current	BDX69			6.0	mA
		BDX69A				
		BDX69B				
		BDX69C				
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 5\text{V}; I_C = 0$			10	mA
h_{FE-1}	DC Current Gain	$I_C = 5\text{A}; V_{CE} = 3\text{V}$		3000		
h_{FE-2}	DC Current Gain	$I_C = 20\text{A}; V_{CE} = 3\text{V}$	1000			
h_{FE-3}	DC Current Gain	$I_C = 30\text{A}; V_{CE} = 3\text{V}$		4000		
C_{OB}	Output Capacitance	$I_E = 0; V_{CB} = 10\text{V}; f_{test} = 1.0\text{MHz}$		600		pF