

isc Silicon NPN Darlington Power Transistor

BDX63/A/B/C

DESCRIPTION

- Collector Current - $I_C=8A$
- High DC Current Gain- $h_{FE}=1000(\text{Min})@ I_C=3A$
- Complement to Type BDX62/A/B/C

APPLICATIONS

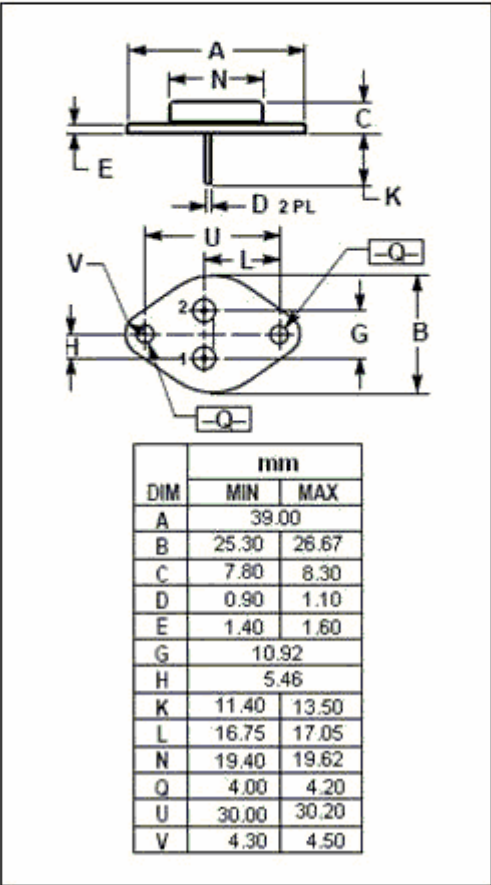
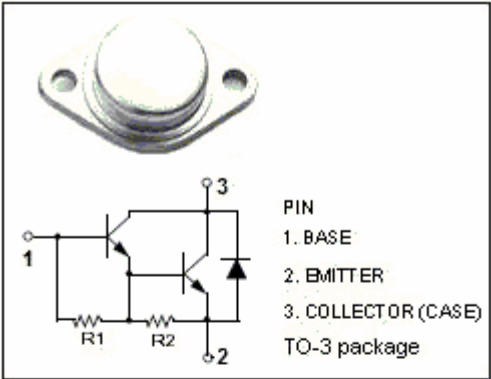
- Designed for audio output stages and general amplifier and switching applications

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

SYMBOL	PARAMETER		VALUE	UNIT
V_{CBO}	Collector-Base Voltage	BDX63	80	V
		BDX63A	100	
		BDX63B	120	
		BDX63C	140	
V_{CEO}	Collector-Emitter Voltage	BDX63	60	V
		BDX63A	80	
		BDX63B	100	
		BDX63C	120	
V_{EBO}	Emitter-Base Voltage		5	V
I_C	Collector Current-Continuous		8	A
I_{CM}	Collector Current-Peak		12	A
I_B	Base Current-Continuous		0.15	A
P_C	Collector Power Dissipation @ $T_C=25^{\circ}C$		90	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	1.94	$^{\circ}C/W$



isc Silicon NPN Darlington Power Transistor

BDX63/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	BDX63	$I_C=100\text{mA}; I_B=0$	60			V
		BDX63A		80			
		BDX63B		100			
		BDX63C		120			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage		$I_C=3\text{A}; I_B=12\text{mA}$			2	V
$V_{BE(on)}$	Base-Emitter On Voltage		$I_C=3\text{A}; V_{CE}=3\text{V}$			2.5	V
V_{ECF}	C-E Diode Forward Voltage		$I_F=3\text{A}$		1.2		V
I_{CEO}	Collector Cutoff Current		$V_{CE}=\frac{1}{2}V_{CE0max}; I_B=0$			0.2	mA
I_{CBO}	Collector Cutoff Current		$V_{CB}=V_{CE0max}; I_E=0$ $V_{CB}=\frac{1}{2}V_{CB0max}; I_E=0; T_J=200^{\circ}\text{C}$			0.2 2	mA
I_{EBO}	Emitter Cutoff Current		$V_{EB}=5\text{V}; I_C=0$			5	mA
h_{FE-1}	DC Current Gain		$I_C=0.5\text{A}; V_{CE}=3\text{V}$		2500		
h_{FE-2}	DC Current Gain		$I_C=3\text{A}; V_{CE}=3\text{V}$	1000			
h_{FE-3}	DC Current Gain		$I_C=8\text{A}; V_{CE}=3\text{V}$		2600		
C_{OB}	Output Capacitance		$I_E=0; V_{CB}=10\text{V}; f_{test}=1\text{MHz}$		100		pF

Switching times

t_{on}	Turn-on Time	$I_C=3\text{A}; I_{B1}=-I_{B2}=12\text{mA}$		0.5		μs
t_{off}	Turn-off Time			5		μs