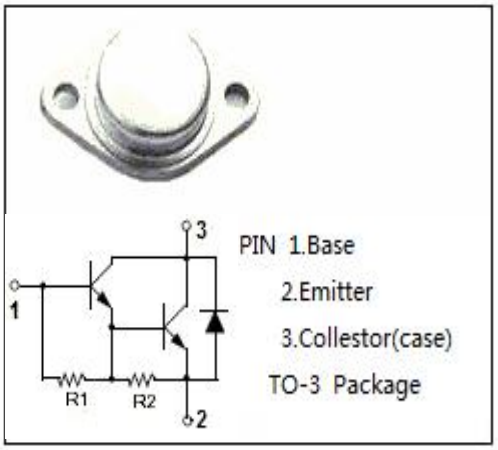
isc Silicon NPN Darlington Power Transistor — BDX63/A/B/C

DESCRIPTION

- Collector Current -I_C= 8A
- High DC Current Gain-h_{FE}= 1000(Min)@ I_C= 3A
- Complement to Type BDX62/A/B/C
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

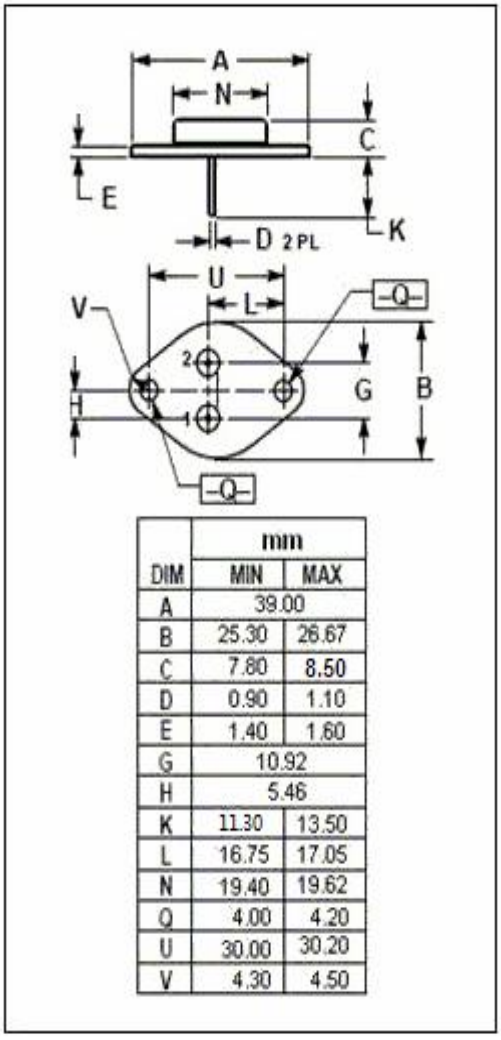


APPLICATIONS

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

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

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℃		90	W
T_J	Junction Temperature		200	℃
T_{stg}	Storage Temperature Range		-65~200	℃



DIM	mm MIN	MAX
A	39.00	
B	25.30	26.67
C	7.80	8.50
D	0.90	1.10
E	1.40	1.60
G	10.92	
H	5.46	
K	11.30	13.50
L	16.75	17.05
N	19.40	19.62
Q	4.00	4.20
U	30.00	30.20
V	4.30	4.50

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance, Junction to Case	1.94	℃/W

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	BDX63	I_C= 50mA ;I_B=0	60			V
		BDX63A		80			
		BDX63B		100			
		BDX63C		120			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage		I_C= 3A; I_B= 12mA			2	V
$V_{BE(on)}$	Base-Emitter On Voltage		I_C= 3A ; V_{CE}= 3V			2.5	V
V_{ECF}	C-E Diode Forward Voltage		I_F= 3A		1.2		V
I_{CEO}	Collector Cutoff Current		V_{CE}= $^1/_2V_{CEOmax}$; I_B= 0			0.2	mA
I_{CBO}	Collector Cutoff Current		V_{CB}= V_{CEOmax};I_E= 0 V_{CB}= $^1/_2V_{CBOmax}$;I_E= 0;T_J= 200℃			0.2 2	mA
I_{EBO}	Emitter Cutoff Current		V_{EB}= 5V; I_C=0			5	mA
h_{FE-1}	DC Current Gain		I_C= 0.5A ; V_{CE}= 3V		2500		
h_{FE-2}	DC Current Gain		I_C= 3A ; V_{CE}= 3V	1000			
h_{FE-3}	DC Current Gain		I_C= 8A ; V_{CE}= 3V		2600		
C_{OB}	Output Capacitance		I_E= 0 ; V_{CB}= 10V; f_{test}= 1MHz		100		pF
Switching times							
t_{on}	Turn-on Time		I_C= 3A; I_{B1}= -I_{B2}= 12mA		0.5		μs
t_{off}	Turn-off Time				5		μs