

SILICON POWER DARLINGTON TRANSISTORS

DESCRIPTION :

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 100V(\text{Min})$
- High DC Current Gain : $hFE = 750(\text{min}) @ IC = 3.0A$
- Low Collector Saturation Voltage-
: $V_{CE(SAT)} = 2.0V(\text{Max.}) @ IC = 3.0A$
- Complement to Type BDX54C
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS :

- Designed for general-purpose amplifier and low-speed switching applications.

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

Characteristic	Symbol	BDX53C	Unit
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CEO}	100	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current-Continuous	I_C	8	A
Collector Current-Peak	I_{CM}	12	A
Base Current- Continuous	I_B	0.2	A
Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	P_C	60	Watts
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-65 to +150	$^\circ\text{C}$

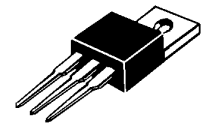
THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	R_{thj-c}	2.08	$^\circ\text{C/W}$

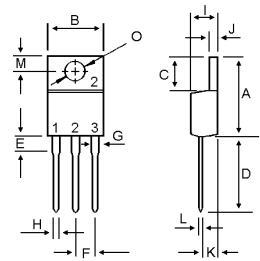
NPN

BDX53C

**8 AMPERES
SILICON DARLINGTON
POWER TRANSISTOR
100 VOLTS
60 WATTS**



TO-220



PIN 1.BASE.
2.COLLECTOR
3.EMITTER

DIM	MILLIMETERS	
	MIN	MAX
A	14.68	16.00
B	9.78	10.42
C	5.02	6.60
D	13.00	14.62
E	3.10	4.19
F	2.41	2.67
G	1.10	1.67
H	0.69	1.01
I	4.22	4.98
J	1.14	1.40
K	2.20	3.30
L	0.28	0.61
M	2.48	3.00
O	3.50	4.00

ELECTRICAL CHARACTERISTICS ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min.	Max	Unit
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OFF CHARACTERISTICS

Collector-Emitter Sustaining Voltage ($I_C = 50 \text{ mA}$, $I_B = 0$)	$V_{CEO(SUS)}$	100		V
Collector Cutoff Current ($V_{CB} = 100 \text{ V}$, $I_E = 0$)	I_{CBO}		0.2	mA
Collector Cutoff Current ($V_{CE} = 50 \text{ V}$, $I_B = 0$)	I_{CEO}		0.5	mA
Emitter Cutoff Current ($V_{EB} = 5.0 \text{ V}$, $I_C = 0$)	I_{EBO}		2.0	mA
Parallel Diode Forward Voltage ($I_F = 3.0 \text{ A}$)	V_F		2.5	V

ON CHARACTERISTICS

DC Current Gain ($I_C = 3.0 \text{ A}$, $V_{CE} = 3.0 \text{ V}$)	h_{FE}	750		
Collector-Emitter Saturation Voltage ($I_C = 3.0 \text{ A}$, $I_B = 12 \text{ mA}$)	$V_{CE(SAT)}$		2.0	V
Base-Emitter Saturation Voltage ($I_C = 3.0 \text{ A}$, $I_B = 12 \text{ mA}$)	$V_{BE(SAT)}$		2.5	V

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