DIGITRON Semiconductors

High-reliability discrete products
and engineering services since 1977

BDX64(A)(B)(C)

NPN DARLINGTON POWER TRANSISTORS

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Characteristic	Symbol	BDX64	BDX64A	BDX64B	BDX64C	Unit
Collector-Emitter Voltage	V_{CBO}	80	100	120	140	V
Collector-Emitter Voltage	V_{CEO}	60	80	100	120	V
Emitter-Base Voltage	V_{EBO}	5.0				V
Collector Current – continuous **Peak**	I_C	12 16				A
Base Current -continuous	I_B	0.2				A
Total Power Dissipation @ T_C = 25°C	P_D	117				W
Operating and Storage Temperature Range	T_J, T_{stg}	-65 to +200				°C
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.5				°C/W

ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise specified)

Characteristic		Symbol	Min	Typ	Max	Unit
Collector-Emitter Sustaining Voltage (I_C = 100mA, I_B = 0)	BDX64 BDX64A BDX64B BDX64C	$V_{CEO(sus)}$	60 80 100 120	- - - -	- - - -	V
Collector-Emitter Saturation Voltage (I_C = 5.0A, I_B = 20mA)		$V_{CE(sat)}$	-	-	2.0	V
Base-Emitter On Voltage (I_C = 5.0A, I_B = V_{CE} = 3V)		$V_{BE(on)}$	-	-	2.5	V
C-E Diode Forward Voltage I_F = 5A		V_{ECF}	-	1.2	-	V
Collector Cutoff Current (V_{CB} = 1/2V_{CEOmax}, I_E = 0) (V_{CB} = 1/2V_{CBOmax}, I_E = 0), T_J = 0		I_{CEO}	- -	- -	0.4 3.0	mA
Emitter Cutoff Current (V_{EB} = 5.0V, I_C = 0)		I_{EBO}	-	-	5	mA
DC Current Gain (I_C = 1A, V_{CE} = 3.0V) (I_C = 5.0A, V_{CE} = 3.0V) (I_C = 12.0A, V_{CE} = 3.0V)		h_{FE}	- 1000 -	3300 - 3700	- - -	-
Output Capacitance (V_{CB} = 10V, I_E = 0, f = 1.0MHz)		C_{ob}	-	200	-	pF
Turn-On Time	I_C = 5.0A, I_{B1} = -I_{B2} = 20mA	t_{on}	-	1	-	µs
Turn-Off Time		t_{off}	-	6	-	

Note 1: Pulse test: Pulse width ≤ 300µs. Duty cycle ≤ 2%.

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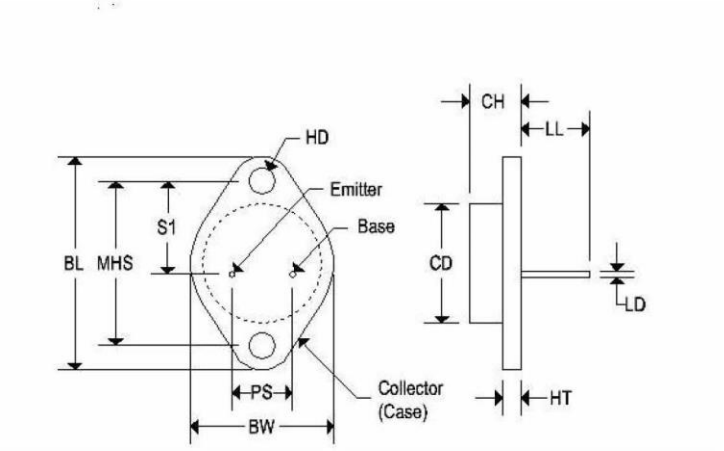
MECHANICAL CHARACTERISTICS

Case:	TO-3
Marking:	Alpha-Numeric
Polarity:	See below



	TO-3			
	Inches		Millimeters	
	Min	Max	Min	Max
CD	-	0.875	-	22.220
CH	0.250	0.380	6.860	9.650
HT	0.060	0.135	1.520	3.430
BW	-	1.050	-	26.670
HD	0.131	0.188	3.330	4.780
LD	0.038	0.043	0.970	1.090
LL	0.312	0.500	7.920	12.700
BL	1.550 REF		39.370 REF	
MHS	1.177	1.197	29.900	30.400
PS	0.420	0.440	10.670	11.180
S1	0.655	0.675	16.640	17.150