BD896 – BD898 – BD900 – BD902

SILICON DARLINGTON POWER TRANSISTORS

PNP epitaxial-base transistors in a monolithic Dalrington circuit and housed in a TO-220 enveloppe. They are intended for use in output stages in audio equipment, general amplifiers, and analogue switching application.
NPN complements are BD895 - BD897 - BD899 - BD901
Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit
V_{CBO}	Collector-Base Voltage	BD896	-45	V
		BD898	-60	
		BD900	-80	
		BD902	-100	
V_{CEO}	Collector-Emitter Voltage	BD896	-45	V
		BD898	-60	
		BD900	-80	
		BD902	-100	
V_{EBO}	Emitter-Base Voltage	BD896	-5	V
		BD898		
		BD900		
		BD902		
I_C	Collector Current	BD896	-8	A
		BD898		
		BD900		
		BD902		
I_B	Base Current	BD896	-300	mA
		BD898		
		BD900		
		BD902		
P_T	Power Dissipation	T_c = 25°	70	Watts
		T_a = 25°	2	
T_J	Junction Temperature		150	°C
T_s	Storage Temperature range		-65 to +150	

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ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)			Min	Typ	Max	Unit
I_{CBO}	Collector Cutoff Current	I_E= 0 V_{CB} = -45 V	T_C=25°C	BD896	-	-	-0.2	mA
		I_E= 0 V_{CB} = -60 V		BD898				
		I_E= 0 V_{CB} = -80 V		BD900				
		I_E= 0 V_{CB} = -100 V		BD902				
		I_E= 0 V_{CB} = -45 V	T_C=100° C	BD896	-	-	-2	mA
		I_E= 0 V_{CB} = -60 V		BD898				
		I_E= 0 V_{CB} = -80 V		BD900				
		I_E= 0 V_{CB} = -100 V		BD902				
I_{CEO}	Collector Cutoff Current	I_E= 0, V_{CE} = - 30 V		BD896	-	-	-0.5	mA
		I_E= 0, V_{CE} = - 30 V		BD898				
		I_E= 0, V_{CE} = - 40 V		BD900				
		I_E= 0, V_{CE} = - 50 V		BD902				
I_{EBO}	Emitter Cutoff Current	V_{EB}= -5 V, I_C= 0		BD896	-	-	-2	mA
				BD898				
				BD900				
				BD902				
V_{CEO}	Collector-Emitter Breakdown Voltage (*)	I_C= -100 mA, I_B= 0		BD896	-45	-	-	V
				BD898	-60	-	-	
				BD900	-80	-	-	
				BD902	-100	-	-	
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	I_C= -3 A, I_B= -12 mA		BD896	-	-	-2.5	V
				BD898				
				BD900				
				BD902				

BD896 – BD898 – BD900 – BD902

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings			Min	Typ	Max	Unit
$V_{BE(on)}$	Base-Emitter Voltage (*)	I_C= -3 A, V_{CE}= -3 V	BD896 BD898 BD900 BD902	-	-	-2.5	V
h_{FE}	DC Current Gain (*)	V_{CE}= -3.0 V I_C= -3 A	BD896 BD898 BD900 BD902	750	-	-	-
V_{ECF}	C-E Diode Forward Voltage	I_E= -8 A	BD896 BD898 BD900 BD902	-	-	-3.5	V

SWITCHING TIMES

Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit
t_{on}	turn-on time	I_C= -3 A, $V_{BE(off)}$ = 3.5 V I_{Bon} = -I_{Boff} = -12 mA, R_L = 10 Ω	-	1	-	µs
t_{off}	turn-off time		-	5	-	

(*) Pulse Width ≈ 300 µs, Duty Cycle ∠ 2.0%

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJ-C}	Thermal Resistance Junction To Case	1.79	°C/W
R_{thJ-A}	Thermal Resistance Junction To Free Air	62.5	°C/W

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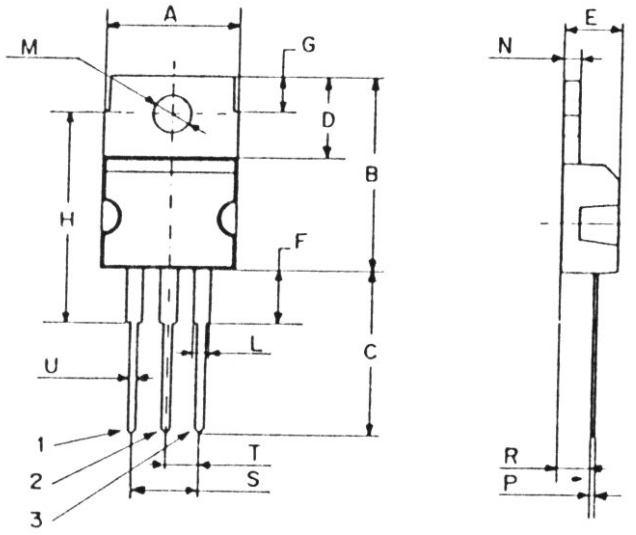
MECHANICAL DATA CASE TO-220

DIMENSIONS (mm)		
	Min.	Max.
A	9,90	10,30
B	15,65	15,90
C	13,20	13,40
D	6,45	6,65
E	4,30	4,50
F	2,70	3,15
G	2,60	3,00
H	15,75	17.15
L	1,15	1,40
M	3,50	3,70
N	-	1,37
P	0,46	0,55
R	2,50	2,70
S	4,98	5,08
T	2.49	2.54
U	0,70	0,90



Pin 1 :	Base
Pin 2 :	Collector
Pin 3 :	Emitter
Package	Collector

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