PNP BDT82 – BDT84 – BDT86 – BDT88

SILICON POWER TRANSISTORS

The BDT82 – BDT84 – BDT86 – BDT88 are epitaxial base transistors in a TO-220 plastic envelope.
They are intended for use in audio output stages and general amplifier and switching appications.
NPN complements are BDT81 – BDT83 – BDT85 – BDT87.
Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings			Value	Unit
V_{CEO}	Collector-Emitter Voltage	-IB = 0	BDT82	-60	V
			BDT84	-80	
			BDT86	-100	
			BDT88	-120	
V_{CBO}	Collector-Base Voltage	-IE = 0	BDT82	-60	V
			BDT84	-80	
			BDT86	-100	
			BDT88	-120	
V_{EBO}	Emitter-Base Voltage	-IC = 0		-7	V
I_C	Collector Current			-15	A
I_{CM}	Collector Peak Current			-20	A
I_B	Base Current			-4	A
Pt	Total Power Dissipation	@ TC = 25°		125	W
T_J	Junction Temperature			150	°C
T_{Stg}	Storage Temperature			-65 to +150	°C

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJa}	Thermal Resistance, Junction to Ambient	70	K/W
R_{thJmb}	Thermal Resistance, Junction to Mounting Base	1	K/W

PNP BDT82 – BDT84 – BDT86 – BDT88

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)		Min	Typ	Max	Unit
I_{CB0}	Collector Cutoff Current	I_E=0A, V_{CB} = -60 V	BDT82	-	-	-0.2	mA
		I_E=0A, V_{CB} = -80 V	BDT84				
		I_E=0A, V_{CB} = -100 V	BDT86				
		I_E=0A, V_{CB} = -120 V	BDT88				
I_{CES}	Collector Cutoff Current	V_{BE}=0, V_{CE} = -60V	BDT82	-	-	-1	mA
		V_{BE}=0, V_{CE} = -80V	BDT84				
		V_{BE}=0, V_{CE} = -100V	BDT86				
		V_{BE}=0, V_{CE} = -120V	BDT88				
I_{EBO}	Emitter Cutoff Current	V_{EB}= -7 V I_C=0	BDT82	-	-	-0.1	mA
			BDT84				
			BDT86				
			BDT88				
h_{FE}	DC Current Gain (*)	I_C= -50mA V_{CE}= -10V	BDT82	40	-	-	-
			BDT84				
			BDT86				
			BDT88				
		I_C= -5A V_{CE}= -4V	BDT82	40	-	-	
			BDT84				
			BDT86				
			BDT88				
$V_{CE(SAT)}$	Collector-Emitter Saturation Voltage (*)	I_C= -5A I_B= -0.5A	BDT82	-	-	-1	V
			BDT84				
			BDT86				
			BDT88				
		I_C= -7A I_B= -0.7A	BDT82	-	-	-1.6	
			BDT84				
			BDT86				
			BDT88				
V_{BE}	Base-Emitter Voltage (*)	I_C= -4A V_{CE}= -4 V	BDT82	-	-	-1.5	V
			BDT84				
			BDT86				
			BDT88				

PNP BDT82 – BDT84 – BDT86 – BDT88

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)Sec	Min	Typ	Max	Unit
$I_{S/B}$	Second breakdown collector current	V_{CE}= -50 V, t_P = 100 ms	-2.5	-	-	A
f_T	Transition frequency	V_{CE}= -10 V, I_C= -0.5 A, f=1 MHz	-	20	-	MHz
t_{on}	Turn-on time	I_C= -7 A	-	-	1	µs
T_{off}	Turn-off time	I_{B1} = -I_{B2} = -0.7 A	-	-	2	

(*) Pulse Duration = 300 µs, δ <= 2%

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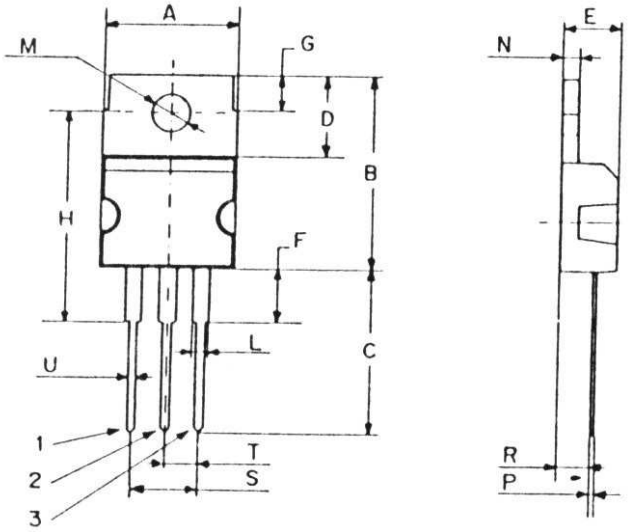
MECHANICAL DATA CASE TO-220

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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