



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 applications.

NPN complements are BDT81 – BDT83 – BDT85 – BDT87.

Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings			Value	Unit
V_{CEO}	Collector-Emitter Voltage	$-I_B = 0$	BDT82	-60	V
			BDT84	-80	
			BDT86	-100	
			BDT88	-120	
V_{CBO}	Collector-Base Voltage	$-I_E = 0$	BDT82	-60	V
			BDT84	-80	
			BDT86	-100	
			BDT88	-120	
V_{EBO}	Emitter-Base Voltage	$-I_C = 0$		-7	V
I_C	Collector Current			-15	A
I_{CM}	Collector Peak Current			-20	A
I_B	Base Current			-4	A
P_t	Total Power Dissipation	@ $T_C = 25^\circ$		125	W
T_J	Junction Temperature			150	$^\circ\text{C}$
T_{Stg}	Storage Temperature			-65 to +150	$^\circ\text{C}$

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	$I_E=0A, V_{CB} = -60\text{ V}$	BDT82	-	-	-0.2	mA
		$I_E=0A, V_{CB} = -80\text{ V}$	BDT84				
		$I_E=0A, V_{CB} = -100\text{ V}$	BDT86				
		$I_E=0A, V_{CB} = -120\text{ V}$	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	$V_{EB}= -7\text{ V}$ $I_C=0$	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				
		$I_C= -5A$ $I_B= -0.5A$	BDT82	-	-	-1.6	
			BDT84				
			BDT86				
			BDT88				
V_{BE}	Base-Emitter Voltage (*)	$I_C= -7A$ $I_B= -0.7A$	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	$V_{CE} = -50\text{ V}$, $t_p = 100\text{ ms}$	-2.5	-	-	A
f_T	Transition frequency	$V_{CE} = -10\text{ V}$, $I_C = -0.5\text{ A}$, $f = 1\text{ MHz}$	-	20	-	MHz
t_{on}	Turn-on time	$I_C = -7\text{ A}$ $I_{B1} = -I_{B2} = -0.7\text{ A}$	-	-	1	μs
T_{off}	Turn-off time		-	-	2	

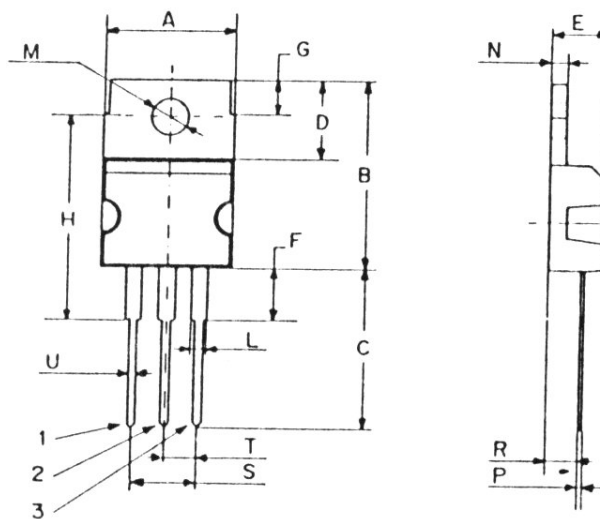
(*) Pulse Duration = 300 μs , $\delta \leq 2\%$



PNP BDT82 – BDT84 – BDT86 – BDT88

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

Revised October 2012

Information furnished is believed to be accurate and reliable. However, Comset Semiconductors assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may results from its use. Data are subject to change without notice. Comset Semiconductors makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Comset Semiconductors assume any liability arising out of the application or use of any product and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Comset Semiconductors' products are not authorized for use as critical components in life support devices or systems.