

Plastic High Power Silicon PNP Transistor

... designed for use up to 30 Watt audio amplifiers utilizing complementary or quasi complementary circuits.

- DC Current Gain —
 $h_{FE} = 40$ (Min) @ $I_C = 1.0$ Adc
- BD802 is complementary with BD 795, 797, 799, 801

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector–Emitter Voltage	V_{CEO}	100	Vdc
Collector–Base Voltage	V_{CBO}	100	Vdc
Emitter–Base Voltage	V_{EBO}	5.0	Vdc
Collector Current	I_C	8.0	Adc
Base Current	I_B	3.0	Adc
Total Device Dissipation $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	65 522	Watts mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	θ_{JC}	1.92	$^\circ\text{C}/\text{W}$

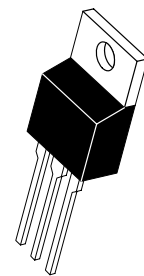
ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
Collector–Emitter Sustaining Voltage* ($I_C = 0.05$ Adc, $I_B = 0$)	BV_{CEO}	100	—	Vdc
Collector Cutoff Current ($V_{CB} = 100$ Vdc, $I_E = 0$)	I_{CBO}	—	0.1	mAdc
Emitter Cutoff Current ($V_{BE} = 5.0$ Vdc, $I_C = 0$)	I_{EBO}	—	1.0	mAdc
DC Current Gain ($I_C = 1.0$ A, $V_{CE} = 2.0$ V) ($I_C = 3.0$ A, $V_{CE} = 2.0$ V)	h_{FE}	30 15	— —	
Collector–Emitter Saturation Voltage* ($I_C = 3.0$ Adc, $I_B = 0.3$ Adc)	$V_{CE(sat)}$	—	1.0	Vdc
Base–Emitter On Voltage* ($I_C = 3.0$ Adc, $V_{CE} = 2.0$ Vdc)	$V_{BE(on)}$	—	1.6	Vdc
Current–Gain — Bandwidth Product ($I_C = 0.25$ Adc, $V_{CE} = 10$ Vdc, $f = \text{MHz}$)	f_T	3.0	—	MHz

*Pulse Test: Pulse Width ≤ 300 μs , Duty Cycle ≤ 2.0 .

BD802

**8 AMPERE
POWER TRANSISTORS
PNP SILICON
100 VOLTS
65 WATTS**



**CASE 221A-09
TO-220AB**

BD802

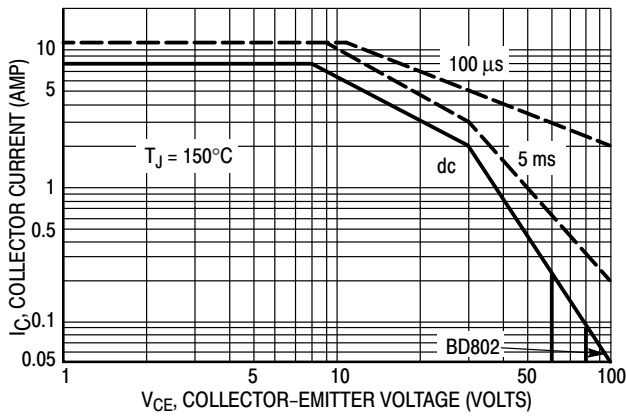


Figure 1. Active Region Safe Operating Area

The Safe Operating Area Curves indicate $I_C - V_{CE}$ limits below which the device will not enter secondary breakdown. Collector load lines for specific circuits must fall within the applicable Safe Area to avoid causing a catastrophic failure. To insure operation below the maximum T_J , power-temperature derating must be observed for both steady state and pulse power conditions.

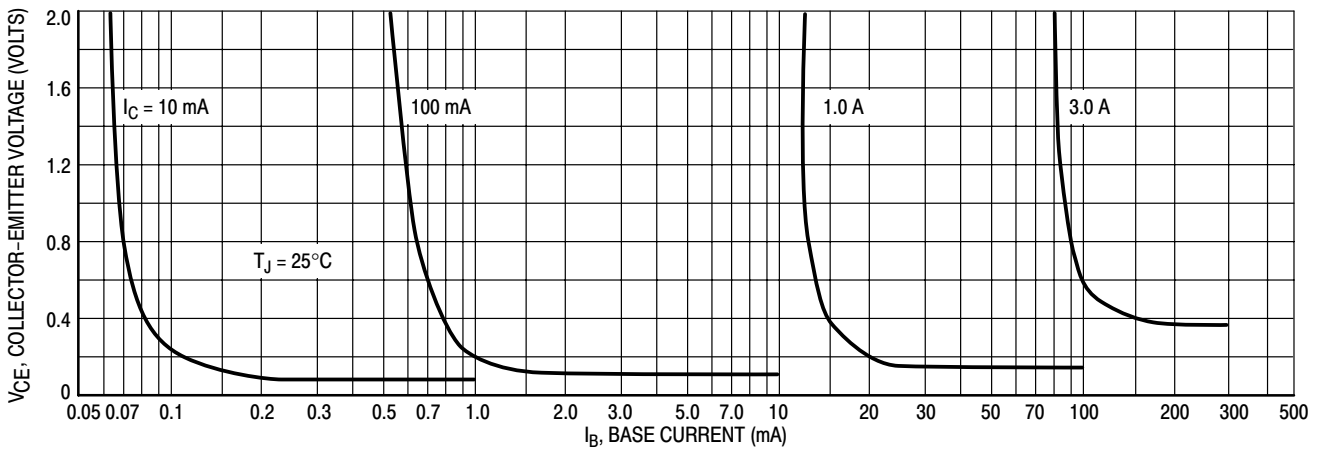


Figure 2. Collector Saturation Region

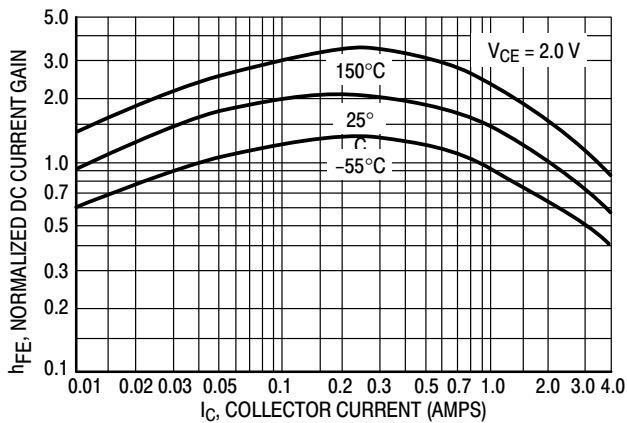


Figure 3. Normalized DC Current Gain

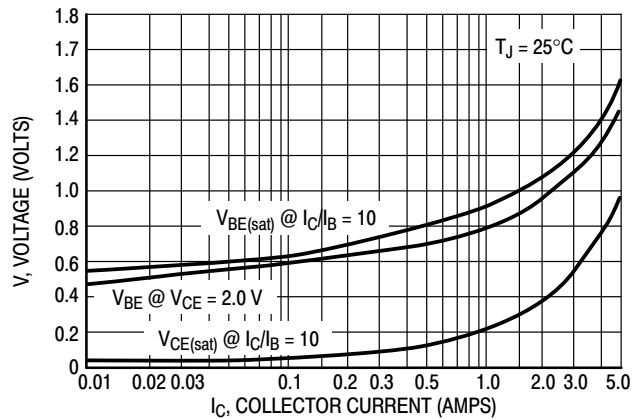


Figure 4. "On" Voltage

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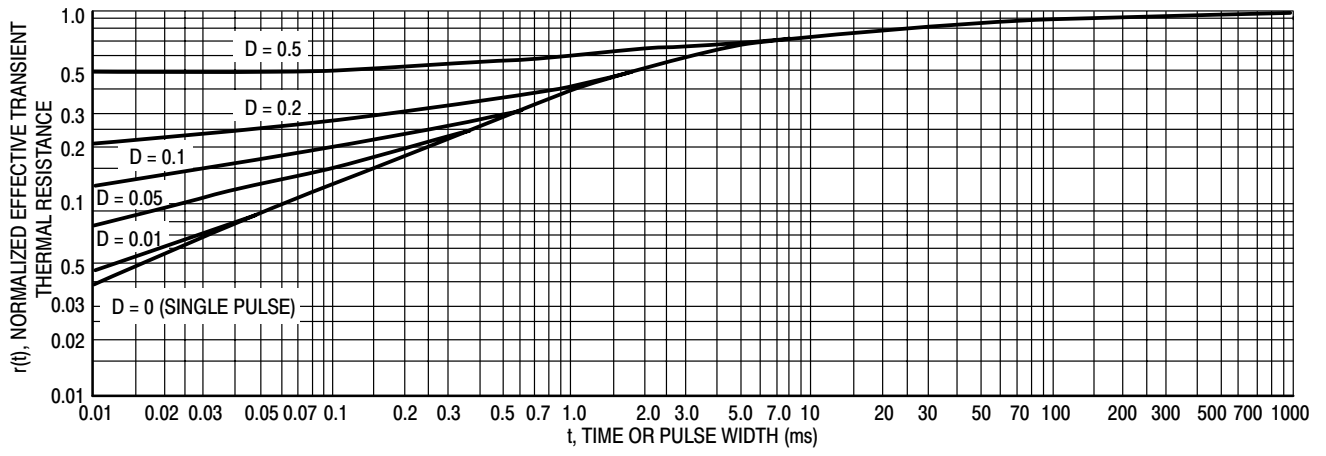
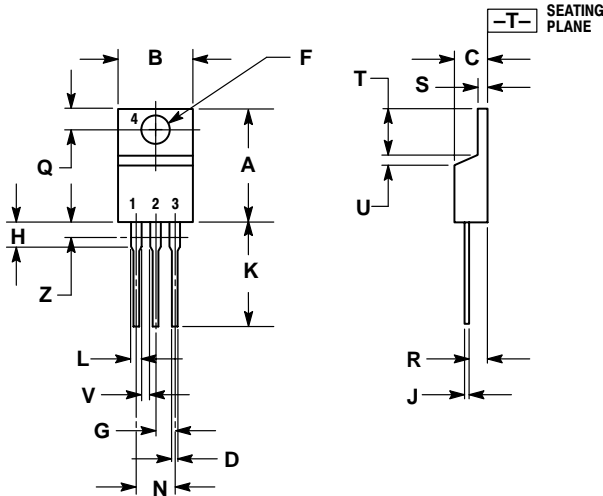


Figure 5. Thermal Response

BD802


PACKAGE DIMENSIONS

TO-220AB CASE 221A-09 ISSUE AA



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: INCH.
 3. DIMENSION Z DEFINES A ZONE WHERE ALL BODY AND LEAD IRREGULARITIES ARE ALLOWED.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.570	0.620	14.48	15.75
B	0.380	0.405	9.66	10.28
C	0.160	0.190	4.07	4.82
D	0.025	0.035	0.64	0.88
F	0.142	0.147	3.61	3.73
G	0.095	0.105	2.42	2.66
H	0.110	0.155	2.80	3.93
J	0.018	0.025	0.46	0.64
K	0.500	0.562	12.70	14.27
L	0.045	0.060	1.15	1.52
N	0.190	0.210	4.83	5.33
Q	0.100	0.120	2.54	3.04
R	0.080	0.110	2.04	2.79
S	0.045	0.055	1.15	1.39
T	0.235	0.255	5.97	6.47
U	0.000	0.050	0.00	1.27
V	0.045	---	1.15	---
Z	---	0.080	---	2.04

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