MOTOROLA
SEMICONDUCTOR TECHNICAL DATA

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by BD802/D

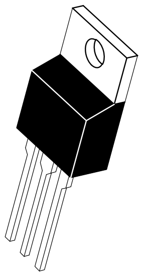
BD802

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

8 AMPERE
POWER TRANSISTORS
PNP SILICON
100 VOLTS
65 WATTS



CASE 221A–06
TO–220AB

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°C Derate above 25°C	P_D	65 522	Watts mW/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	–55 to +150	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	θ_{JC}	1.92	°C/W

ELECTRICAL CHARACTERISTICS (T_C = 25°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 = MHz)	f_T	3.0	—	MHz

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

REV 7

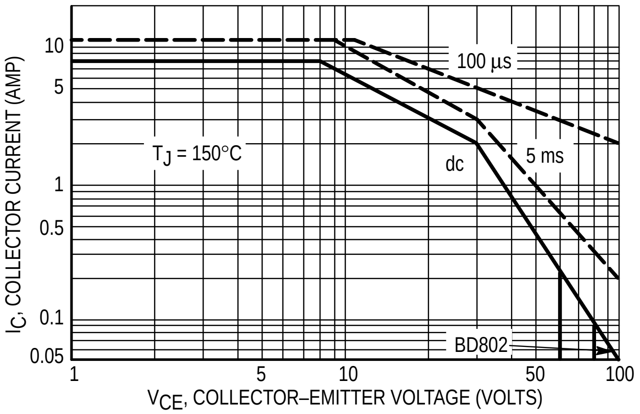


Figure 1. Active Region Safe Operating Area

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.

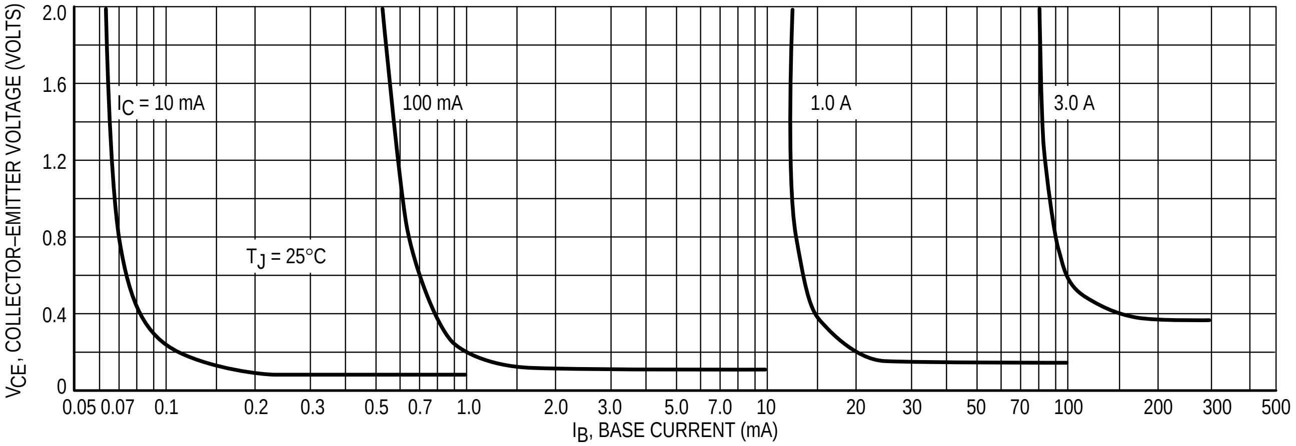


Figure 2. Collector Saturation Region

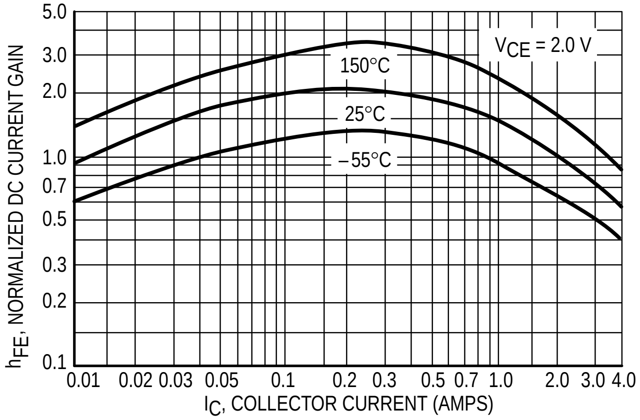


Figure 3. Normalized DC Current Gain

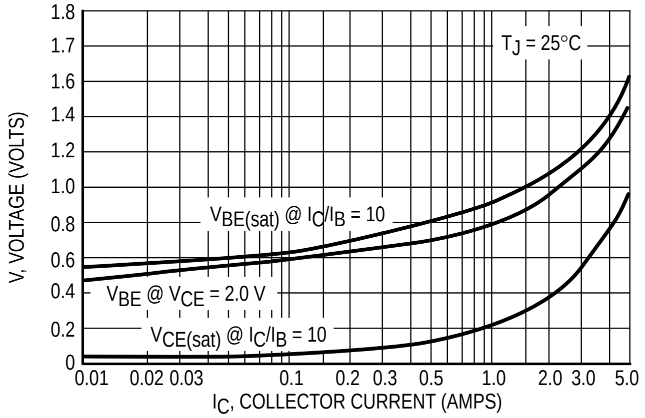


Figure 4. “On” Voltage

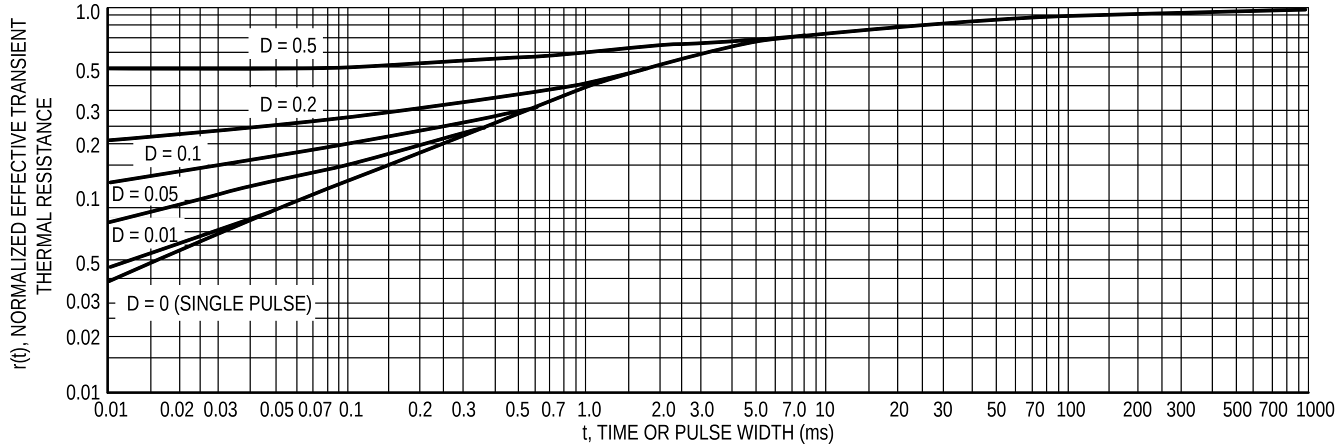
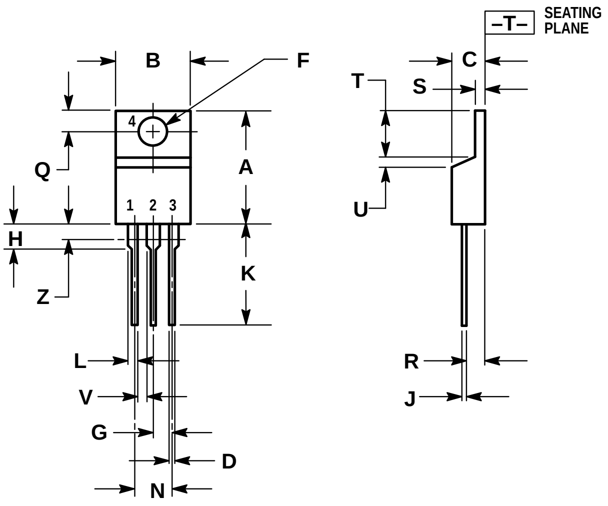


Figure 5. Thermal Response

PACKAGE DIMENSIONS



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.

	INCHES		MILLIMETERS	
DIM	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

STYLE 1:
PIN 1. BASE
2. COLLECTOR
3. EMITTER
4. COLLECTOR

CASE 221A–06
TO–220AB
ISSUE Y

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