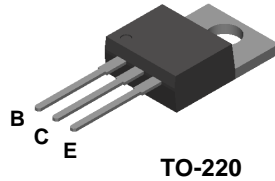
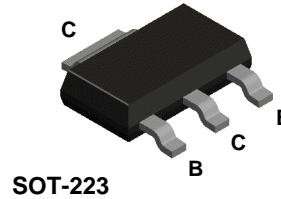


D44H8



NZT44H8



NPN Power Amplifier

This device is designed for power amplifier, regulator and switching circuits where speed is important. Sourced from Process 4Q.

Absolute Maximum Ratings*

TA = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V _{CEO}	Collector-Emitter Voltage	60	V
I _C	Collector Current - Continuous	8.0	A
T _J , T _{stg}	Operating and Storage Junction Temperature Range	-55 to +150	°C

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:

- 1) These ratings are based on a maximum junction temperature of 150 degrees C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics

TA = 25°C unless otherwise noted

Symbol	Characteristic	Max		Units
		D44H8	*NZT44H8	
P _D	Total Device Dissipation	60	1.5	W
	Derate above 25°C	480	12	mW/°C
R _{θJC}	Thermal Resistance, Junction to Case	2.1		°C/W
R _{θJA}	Thermal Resistance, Junction to Ambient	62.5	83.3	°C/W

* Device mounted on FR-4 PCB 36 mm X 18 mm X 1.5 mm; mounting pad for the collector lead min. 6 cm².

NPN Power Amplifier

(continued)

D44H8 / NZT44H8

Electrical Characteristics

TA = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
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OFF CHARACTERISTICS

$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage*	$I_C = 100 \text{ mA}, I_B = 0$	60		V
I_{CBO}	Collector-Cutoff Current	$V_{CB} = 60 \text{ V}, I_E = 0$		10	μA
I_{EBO}	Emitter-Cutoff Current	$V_{EB} = 5.0 \text{ V}, I_C = 0$		100	μA

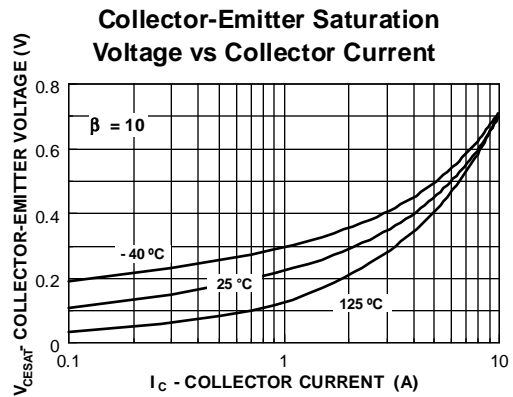
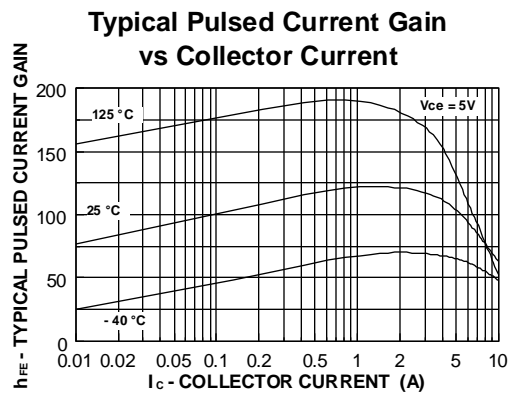
ON CHARACTERISTICS

h_{FE}	DC Current Gain	$I_C = 2.0 \text{ A}, V_{CE} = 1.0 \text{ V}$ $I_C = 4.0 \text{ A}, V_{CE} = 1.0 \text{ V}$	60 40		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 8.0 \text{ A}, I_B = 0.4 \text{ A}$		1.0	V
$V_{BE(sat)}$	Base-Emitter On Voltage	$I_C = 8.0 \text{ A}, I_B = 0.8 \text{ A}$		1.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = 10 \text{ mA}, V_{CE} = 2.0 \text{ V}$	0.52	0.65	V

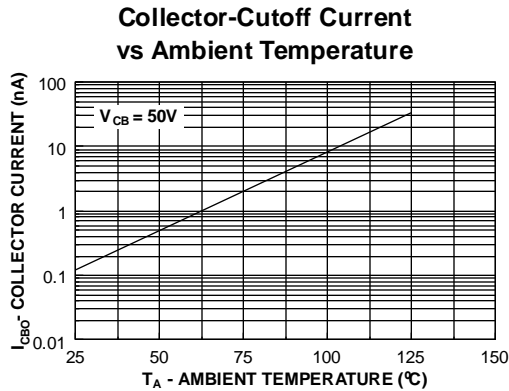
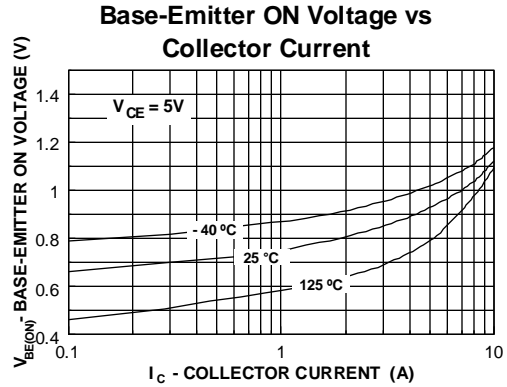
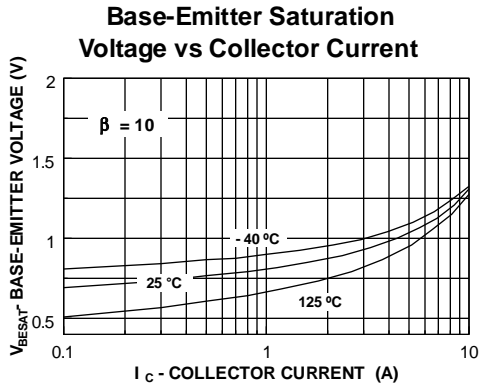
SMALL SIGNAL CHARACTERISTICS

f_T	Current Gain - Bandwidth Product	$I_C = 500 \text{ mA}, V_{CE} = 10 \text{ V}$,	50		MHz
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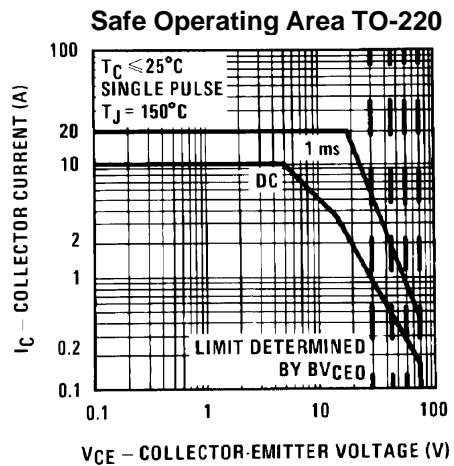
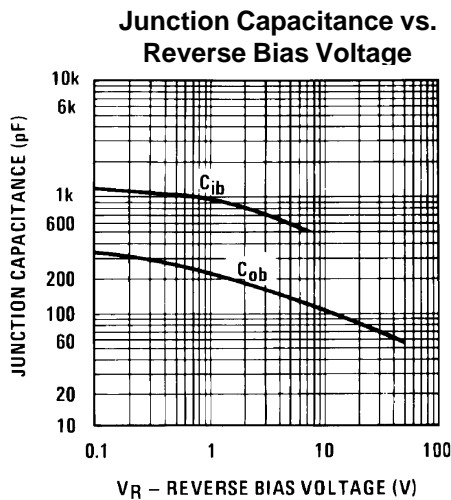
DC Typical Characteristics



DC Typical Characteristics (continued)



AC Typical Characteristics



AC Typical Characteristics (continued)

