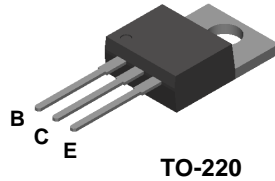
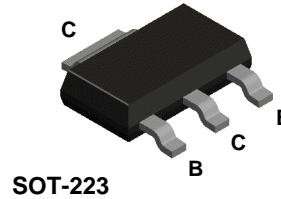


## D44H8



## 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 <sub>CEO</sub>	Collector-Emitter Voltage	60	V
I <sub>C</sub>	Collector Current - Continuous	8.0	A
T <sub>J</sub> , T <sub>stg</sub>	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 <sub>D</sub>	Total Device Dissipation	60	1.5	W
	Derate above 25°C	480	12	mW/°C
R <sub>θJC</sub>	Thermal Resistance, Junction to Case	2.1		°C/W
R <sub>θJA</sub>	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 cm<sup>2</sup>.

# NPN Power Amplifier

(continued)

D44H8 / NZT44H8

## Electrical Characteristics

TA = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
--------	-----------	-----------------	-----	-----	-------

### 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	$\mu\text{A}$
$I_{EBO}$	Emitter-Cutoff Current	$V_{EB} = 5.0 \text{ V}, I_C = 0$		100	$\mu\text{A}$

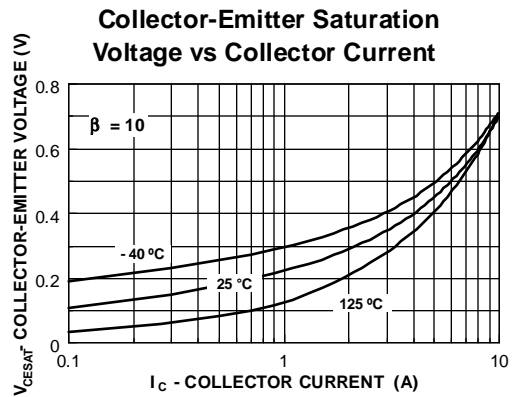
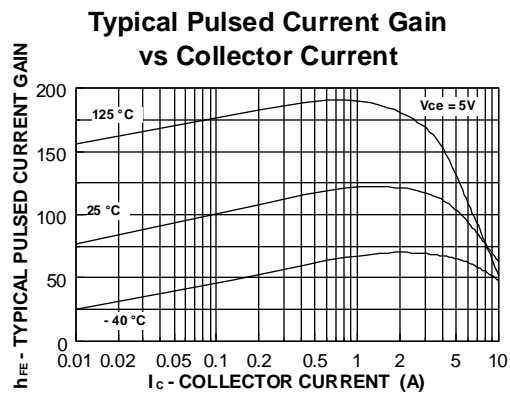
### ON CHARACTERISTICS

$h_{FE}$	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

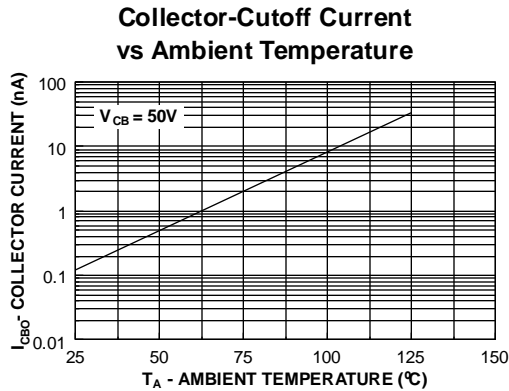
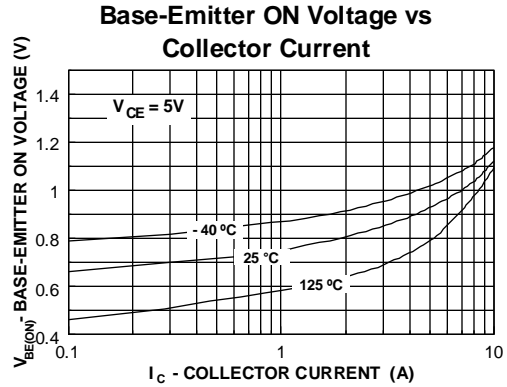
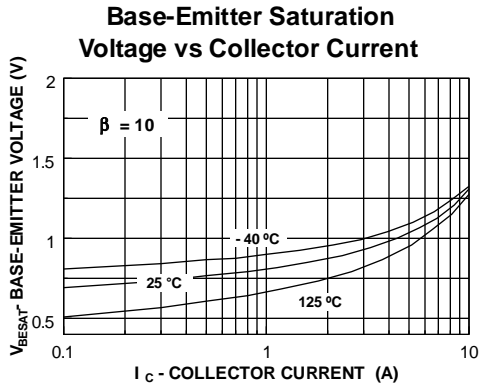
### SMALL SIGNAL CHARACTERISTICS

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

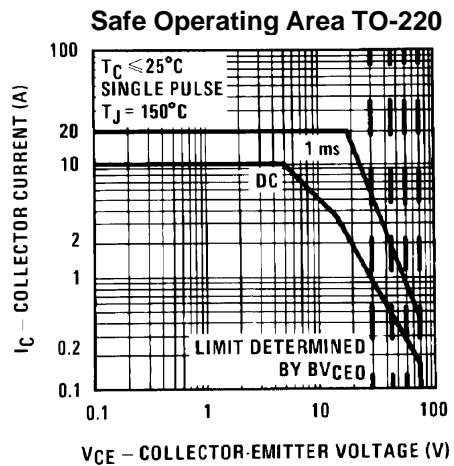
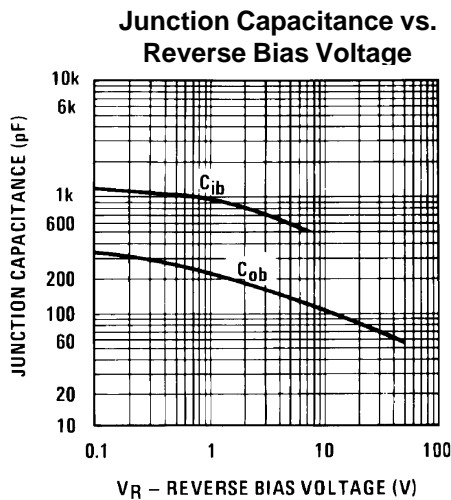
## DC Typical Characteristics



DC Typical Characteristics (continued)



AC Typical Characteristics



AC Typical Characteristics (continued)

