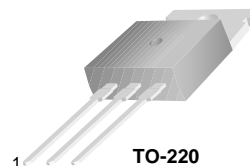


# D44C8

## NPN Power Amplifier

- Sourced from process 4P.



TO-220  
1. Base 2. Collector 3. Emitter

### Absolute Maximum Ratings $T_A=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
$V_{CEO}$	Collector-Emitter Voltage	60	V
$I_C$	Collector Current - Continuous	4.0	A
$T_J, T_{STG}$	Operating and Storage Junction Temperature Range	-55 to +150	$^\circ\text{C}$

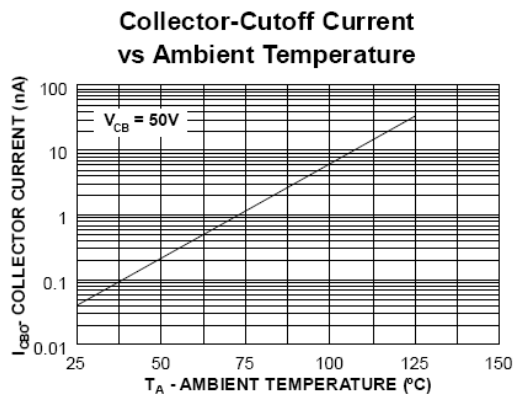
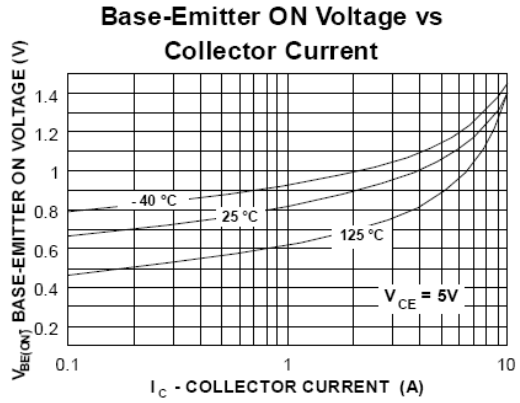
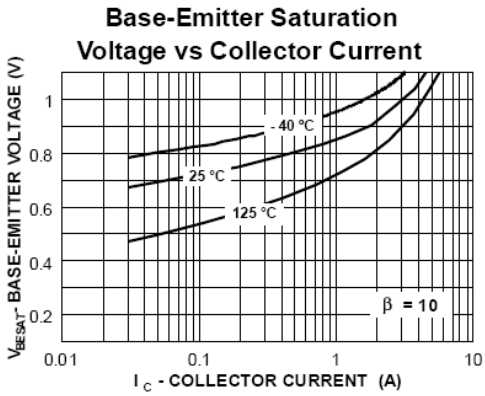
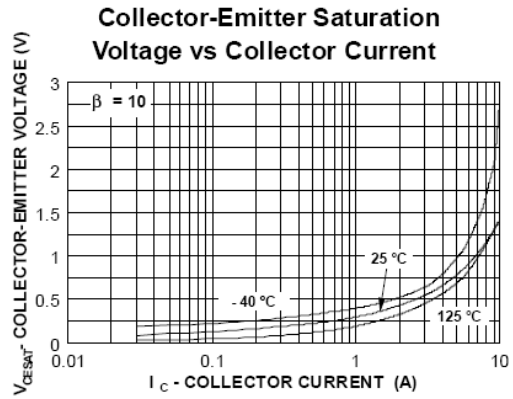
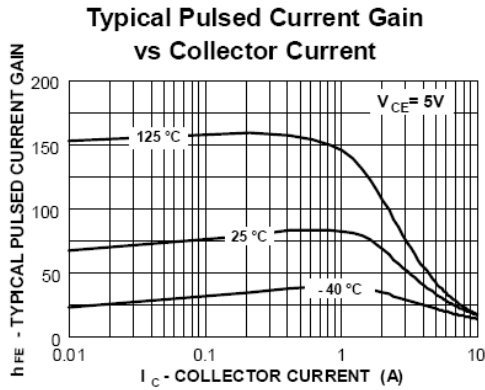
### Electrical Characteristics $T_A=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
<b>Off Characteristics</b>						
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 100\text{mA}, I_B = 0$	60			V
$I_{CES}$	Collector-Emitter-(Base)Short	$V_{CE} = 70\text{V}, I_E = 0$			10	$\mu\text{A}$
$I_{EBO}$	Emitter-Cutoff Current	$V_{EB} = 5.0\text{V}, I_B = 0$			100	$\mu\text{A}$
<b>On Characteristics</b>						
$h_{FE}$	DC Current Gain	$V_{CE} = 1.0\text{V}, I_C = 0.2\text{A}$ $V_{CE} = 1.0\text{V}, I_C = 2.0\text{A}$	40 20		120	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 1.0\text{A}, I_B = 50\text{mA}$			0.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 1.0\text{A}, I_B = 100\text{mA}$			1.3	V
<b>Small Signal Characteristics</b>						
$C_{ob}$	Output Capacitance	$V_{CB} = 10\text{V}, f = 1.0\text{MHz}$			100	pF
$f_T$	Current Gain Bandwidth Product	$I_C = 20\text{mA}, V_{CE} = 4.0\text{V}$			40	MHz
$t_{ON}$	$t_d$ , Delay Time $t_r$ , Rise Time	$I_C = 1.0\text{A},$ $I_{B1} = I_{B2} = 0.1\text{A},$ $V_{CC} = 30\text{V}, t_p = 25\mu\text{s}$		54 490		ns
$t_{OFF}$	$t_s$ , Storage Time $t_f$ , Fall Time			636 59		ns

### Thermal Characteristics $T_A=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Max.	Units
$P_D$	Total Device Dissipation Derate above $25^\circ\text{C}$	60 480	W mW/ $^\circ\text{C}$
$R_{\theta JC}$	Thermal Resistance, Junction to Case	2.1	$^\circ\text{C}/\text{W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ\text{C}/\text{W}$






Typical Performance Characteristics





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| Build it Now™   | FRFET®  | Programmable Active Droop™  | TinyBoost™  |
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|   | Power-SPM™  |   |   |

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