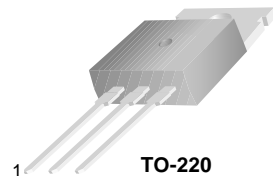


# D45C8

## PNP Power Amplifier

- Sourced from process 5P.



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

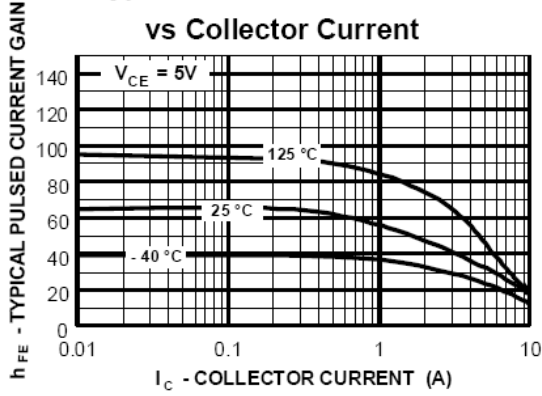
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
<b>Off Characteristics</b>						
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -100\text{mA}, I_B = 0$	-60			V
$I_{CES}$	Collector-Emitter-(Base)Short	$V_{CE} = -70\text{V}, I_E = 0$			-10	$\mu\text{A}$
$I_{CEO}$	Collector-Emitter-(Base)Open	$V_{CE} = -55\text{V}, I_E = 0$			-100	$\mu\text{A}$
$I_{EBO}$	Emitter-Base 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	$V_{CB} = -10\text{V}, f = 1.0\text{MHz}$			125	pF
$f_T$	Current Gain Bandwidth Product	$I_C = -20\text{mA}, V_{CE} = -4.0\text{V}$	32			MHz
$t_{ON}$	$t_d$ , Delay Time	$I_C = -1.0\text{A},$ $I_{B1} = I_{B2} = -0.1\text{A}$		59		ns
	$t_r$ , Rise Time			502		
$t_{OFF}$	$t_s$ , Storage Time	$V_{CC} = -30\text{V}, t_p = 25\mu\text{s}$		474		ns
	$t_f$ , Fall Time			59		

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

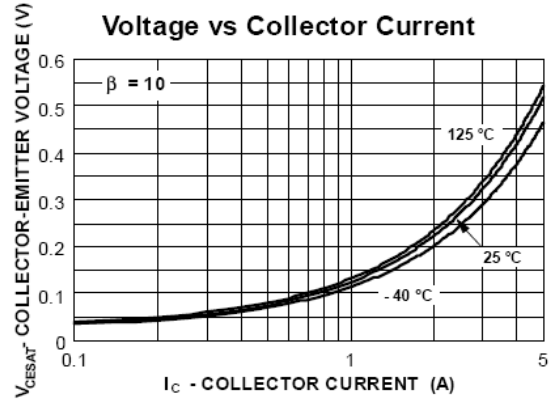
Symbol	Parameter	Max.	Units
$P_D$	Total Device Dissipation Derate above $25^\circ\text{C}$	60 480	W $\text{mW}/^\circ\text{C}$
$R_{\theta JC}$	Thermal Resistance, Junction to Case	2.1	$^\circ\text{C}/\text{W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ\text{C}/\text{W}$

## Typical Performance Characteristics

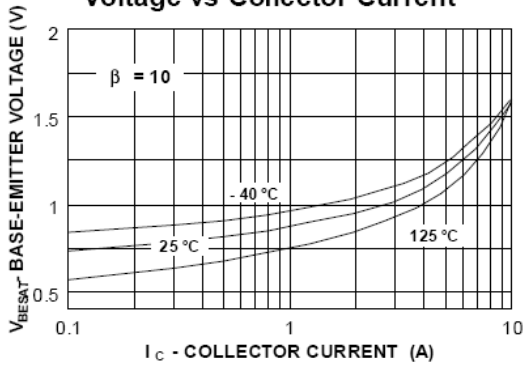
**Typical Pulsed Current Gain vs Collector Current**



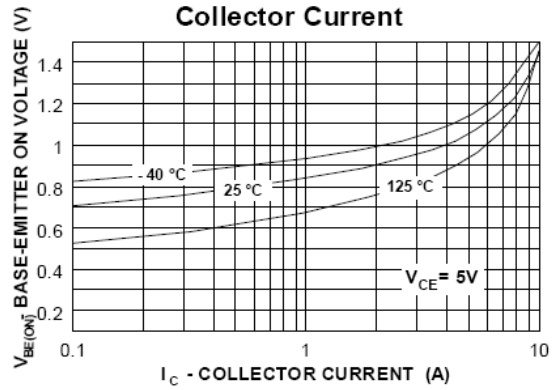
**Collector-Emitter Saturation Voltage vs Collector Current**



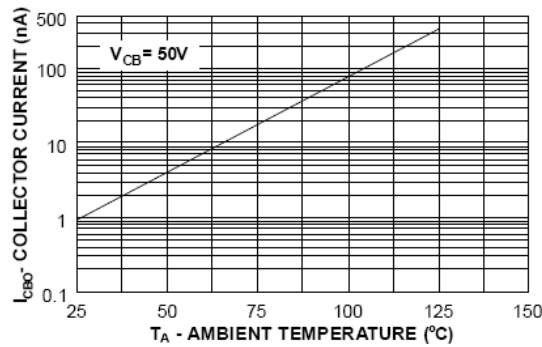
**Base-Emitter Saturation Voltage vs Collector Current**



**Base-Emitter ON Voltage vs Collector Current**








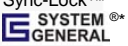
**Collector-Cutoff Current vs Ambient Temperature**





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