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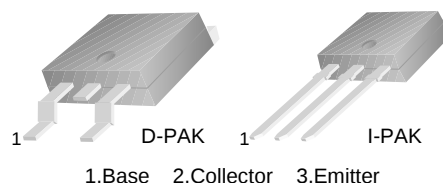
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KSH200

NPN Epitaxial Silicon Transistor

Features

- D-PAK for Surface Mount Applications
- High DC Current Gain
- Lead Formed for Surface Mount Applications (No Suffix)
- Straight Lead (I-PAK, “ - I ” Suffix)



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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	25	V
V_{EBO}	Emitter-Base Voltage	8	V
I_C	Collector Current (DC)	5	A
I_{CP}	Collector Current (Pulse)	10	A
I_B	Base Current	1	A
P_C	Collector Dissipation ($T_C = 25^\circ\text{C}$)	12.5	W
	Collector Dissipation ($T_a = 25^\circ\text{C}$)	1.4	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55 to 150	$^\circ\text{C}$

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

Symbol	Parameter	Conditions	Min.	Max.	Units
$BV_{CEO(sus)}$	* Collector Emitter Sustaining Voltage	$I_C = 100\text{mA}$, $I_B = 0$	25		V
I_{CBO}	Collector Cut-off Current	$V_{CB} = 40\text{V}$, $I_E = 0$		100	nA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 8\text{V}$, $I_C = 0$		100	nA
h_{FE}	* DC Current Gain	$V_{CE} = 1\text{V}$, $I_C = 500\text{mA}$ $V_{CE} = 1\text{V}$, $I_C = 2\text{A}$ $V_{CE} = 2\text{V}$, $I_C = 5\text{A}$	70 45 10	180	
$V_{CE(sat)}$	* Collector-Emitter Saturation Voltage	$I_C = 500\text{mA}$, $I_B = 50\text{mA}$ $I_C = 2\text{A}$, $I_B = 200\text{mA}$ $I_C = 5\text{A}$, $I_B = 1\text{A}$		0.3 0.75 1.8	V V V
$V_{BE(sat)}$	* Base-Emitter Saturation Voltage	$I_C = 5\text{A}$, $I_B = 1\text{A}$		2.5	V
$V_{BE(on)}$	* Base-Emitter On Voltage	$V_{CE} = 1\text{V}$, $I_C = 2\text{A}$		1.6	V
f_T	Current Gain Bandwidth Product	$V_{CE} = 10\text{V}$, $I_C = 100\text{mA}$	65		MHz
C_{ob}	Output Capacitance	$V_{CB} = 10\text{V}$, $I_E = 0$, $f = 0.1\text{MHz}$		80	pF

* Pulse test: $PW \leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$ Pulsed

Typical Performance Characteristics

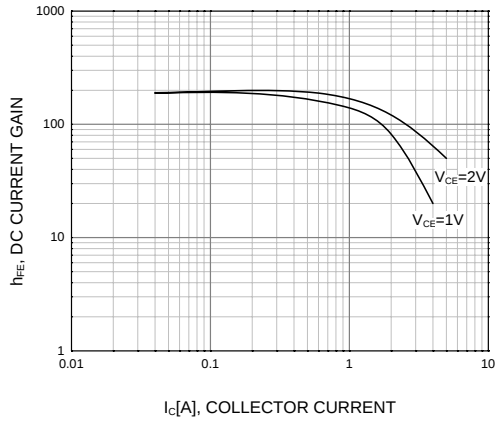


Figure 1. DC current Gain

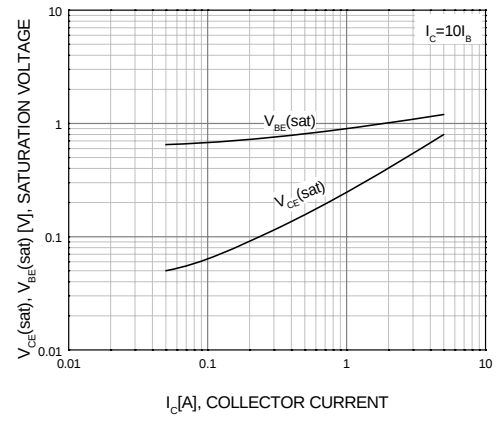


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

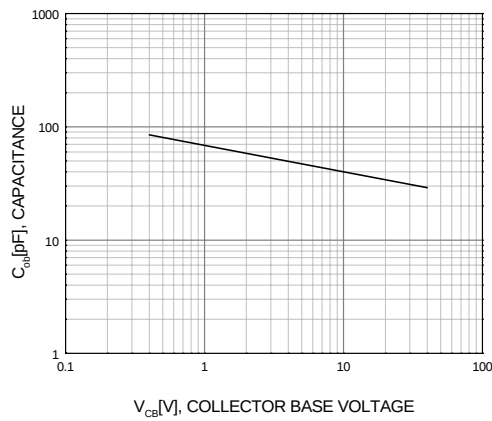


Figure 3. Collector Output Capacitance

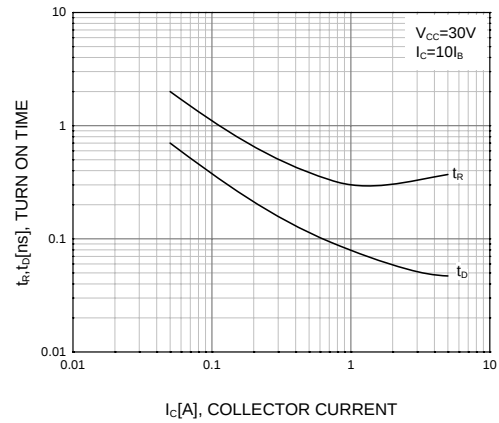


Figure 4. Turn On Time

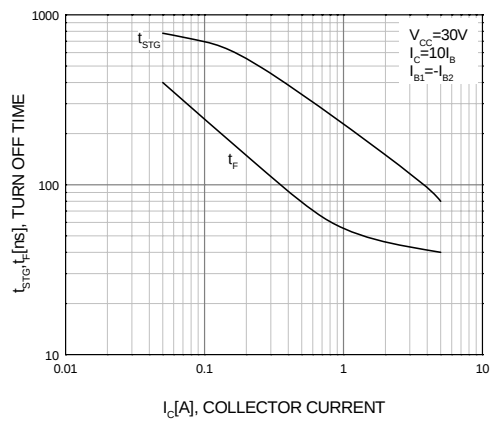


Figure 5. Turn Off Time

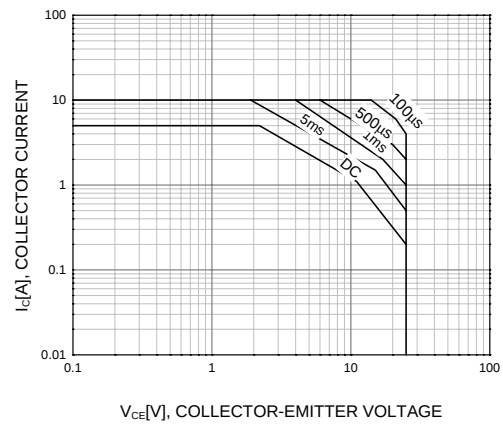


Figure 6. Safe Operating Area

Typical Performance Characteristics (Continued)

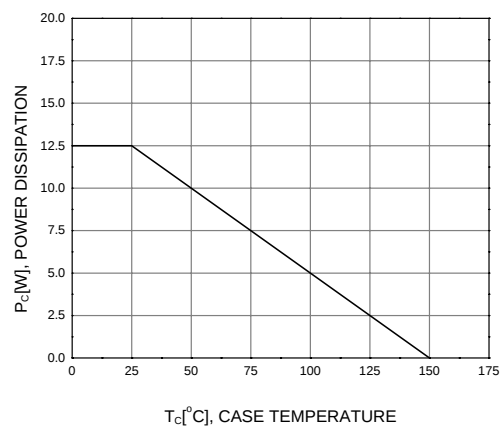


Figure 7. Power Derating



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No Identification Needed	Full Production	Datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve the design.
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