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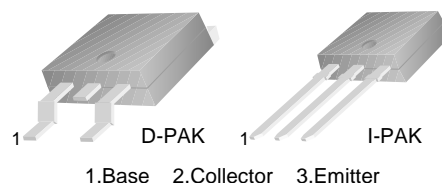
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# KSH200

## 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	$V_{CE} = 1\text{V}, I_C = 500\text{mA}$	70		
		$V_{CE} = 1\text{V}, I_C = 2\text{A}$	45	180	
		$V_{CE} = 2\text{V}, I_C = 5\text{A}$	10		
$V_{CE(sat)}$	* Collector-Emitter Saturation Voltage	$I_C = 500\text{mA}, I_B = 50\text{mA}$		0.3	V
		$I_C = 2\text{A}, I_B = 200\text{mA}$		0.75	V
		$I_C = 5\text{A}, I_B = 1\text{A}$		1.8	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

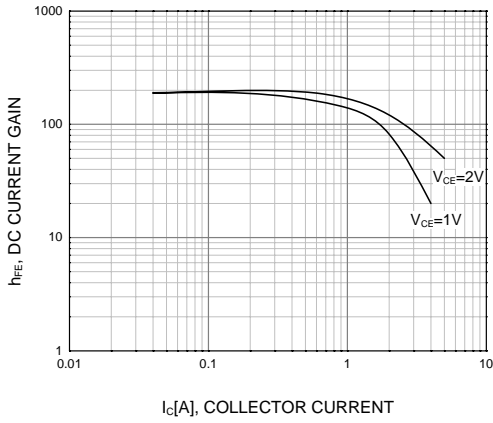


Figure 1. DC current Gain

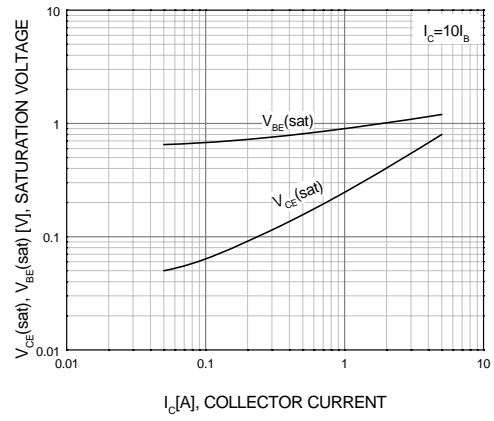


Figure 2. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

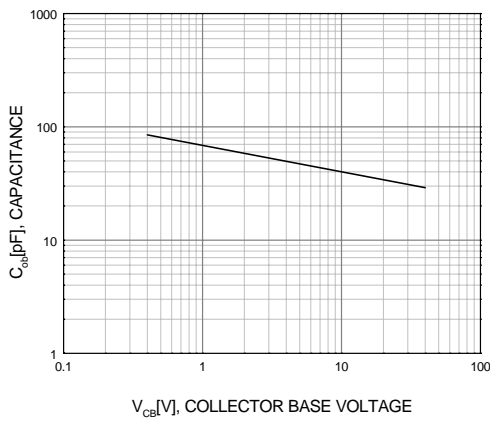


Figure 3. Collector Output Capacitance

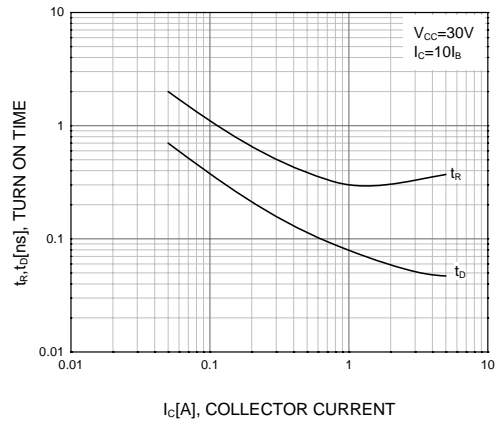


Figure 4. Turn On Time

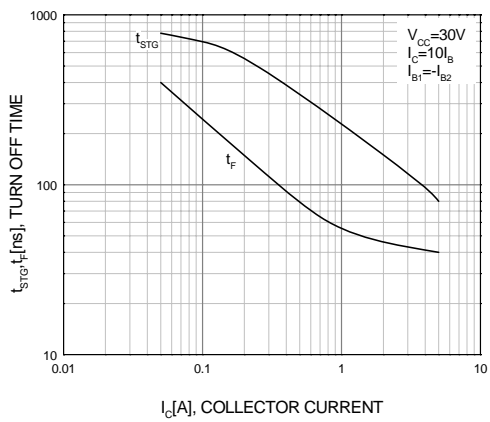


Figure 5. Turn Off Time

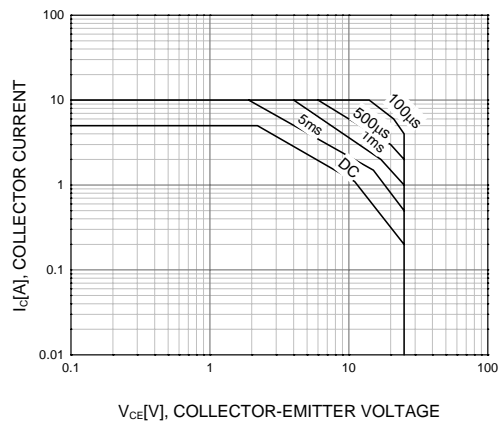
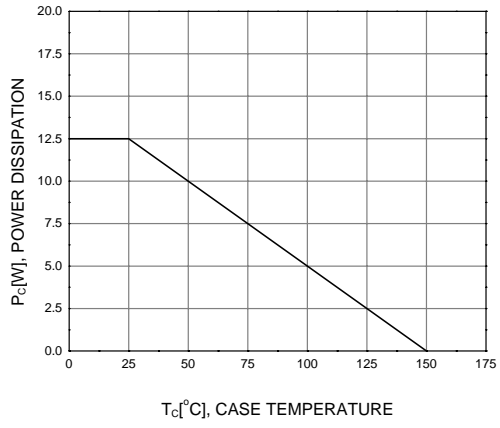


Figure 6. Safe Operating Area

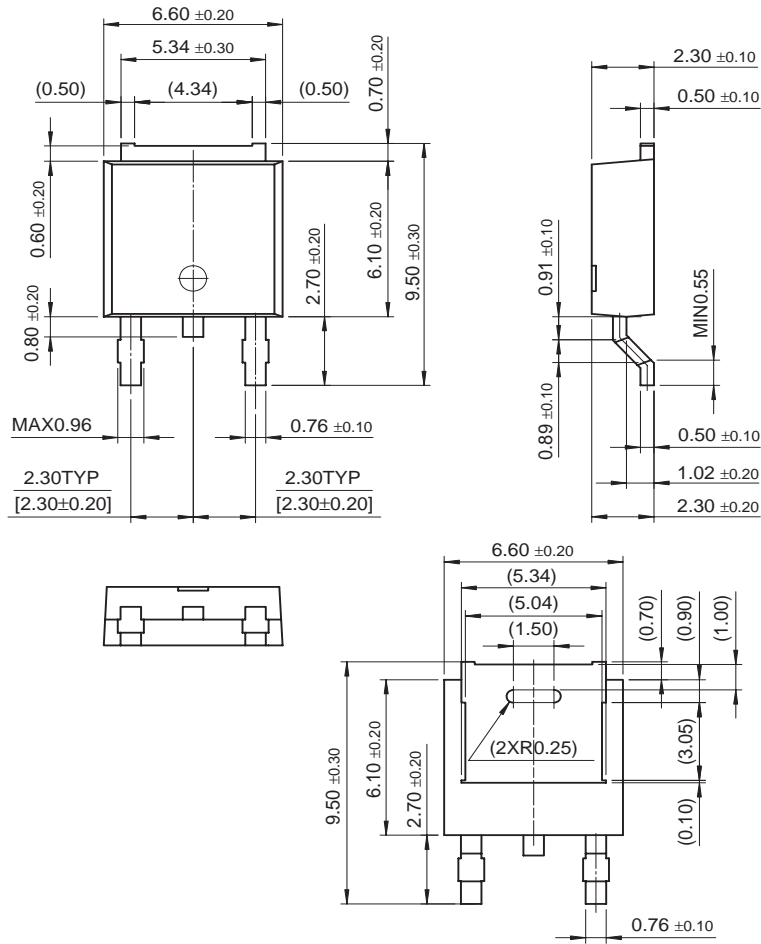
### Typical Performance Characteristics (Continued)



**Figure 7. Power Derating**

Physical Dimensions

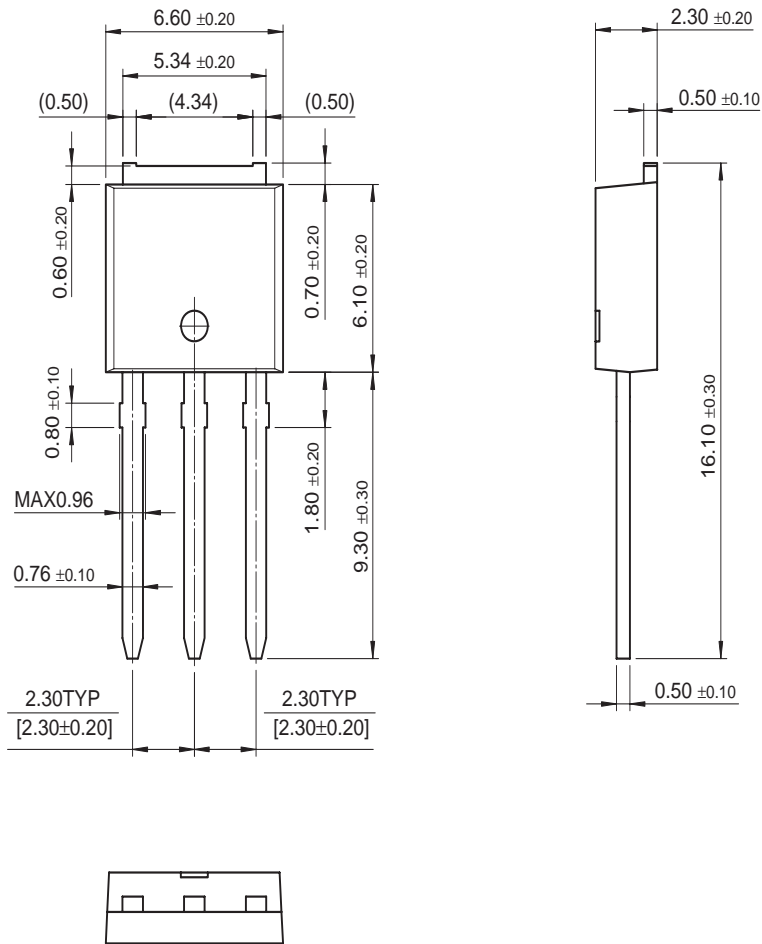
D-PAK



Dimensions in Millimeters

Physical Dimensions (Continued)

I-PAK



Dimensions in Millimeters



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