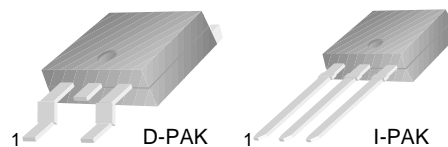


# KSH210

## D-PAK for Surface Mount Applications

- High DC Current Gain
- Low Collector Emitter Saturation Voltage
- Lead Formed for Surface Mount Applications (No Suffix)
- Straight Lead (I-PAK, "- I " Suffix)



1.Base 2.Collector 3.Emitter

## PNP Epitaxial Silicon Transistor

### Absolute Maximum Ratings $T_C=25^\circ\text{C}$ 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 Peak 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	- 65 ~ 150	$^\circ\text{C}$

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

Symbol	Parameter	Test Condition	Min.	Max.	Units
$V_{CEO(sus)}$	* Collector-Emitter Sustaining Voltage	$I_C = - 10\text{mA}, I_B = 0$	-25		V
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = - 40\text{V}, I_E = 0$		-100	nA
$I_{EBO}$	Emitter Cut-off Current	$V_{EBO} = - 8\text{V}, I_C = 0$		-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	$I_C = - 500\text{mA}, I_B = - 50\text{mA}$		-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	$V_{CB} = - 10\text{V}, I_E = 0, f = 0.1\text{MHz}$		120	pF

\* Pulse Test:  $PW \leq 300\mu\text{s}$ , Duty Cycles  $\leq 2\%$

# Typical Characteristics

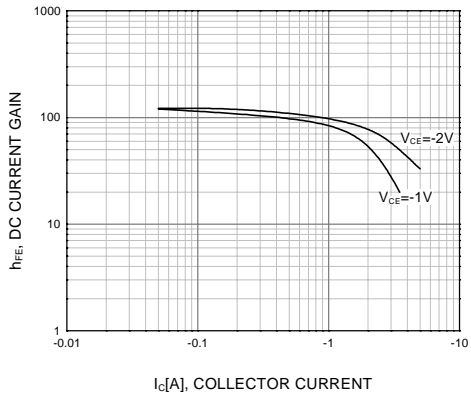


Figure 1. DC current Gain

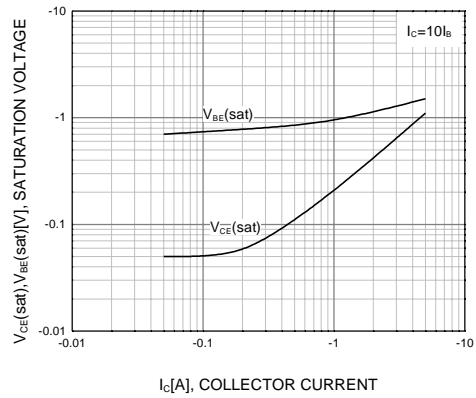


Figure 2. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

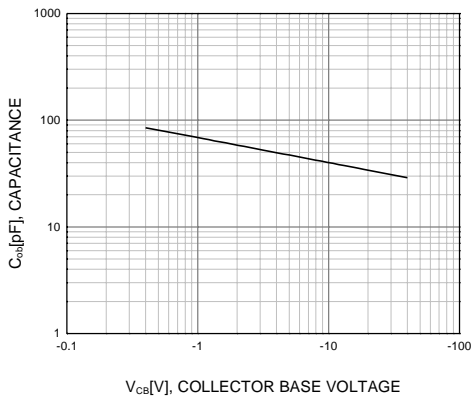


Figure 3. Collector Output Capacitance

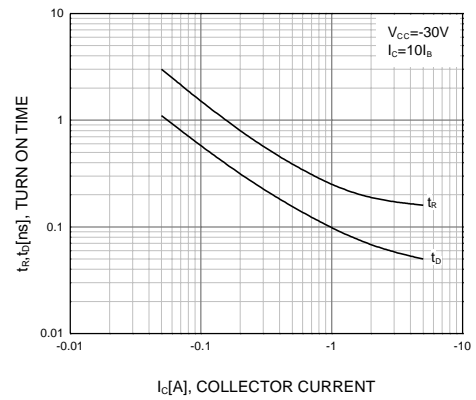


Figure 4. Turn On Time

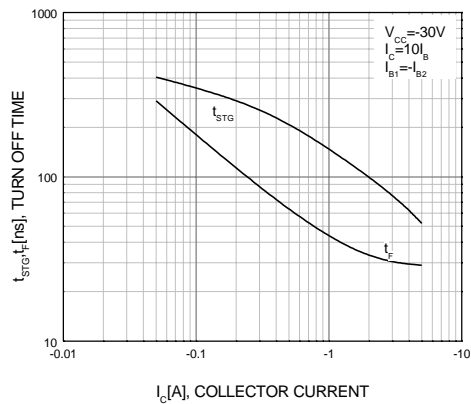


Figure 5. Turn Off Time

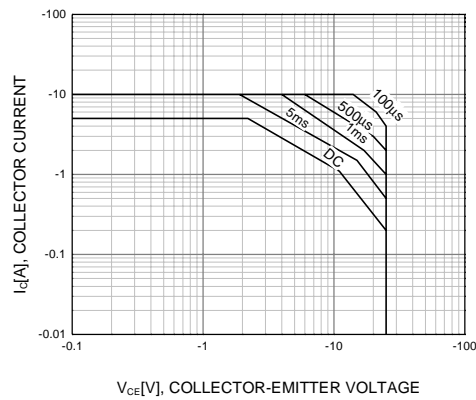


Figure 6. Safe Operating Area

# Typical Characteristics (Continued)

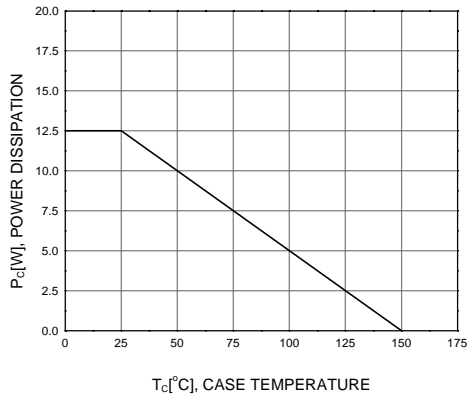
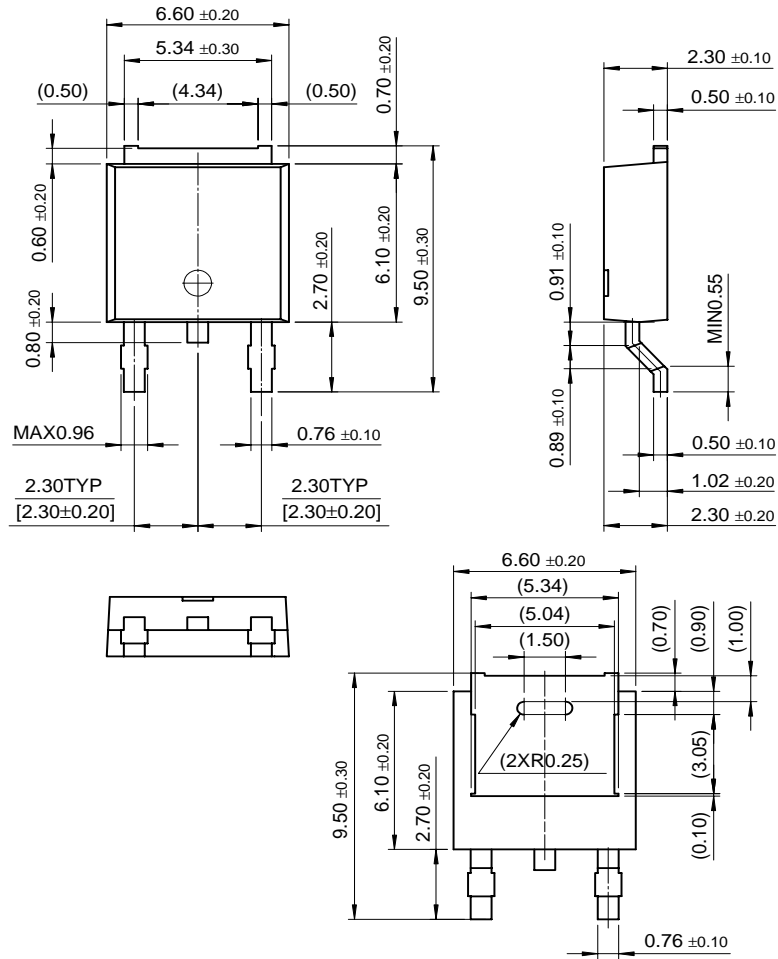


Figure 7. Power Derating

# Package Dimensions

KSH210

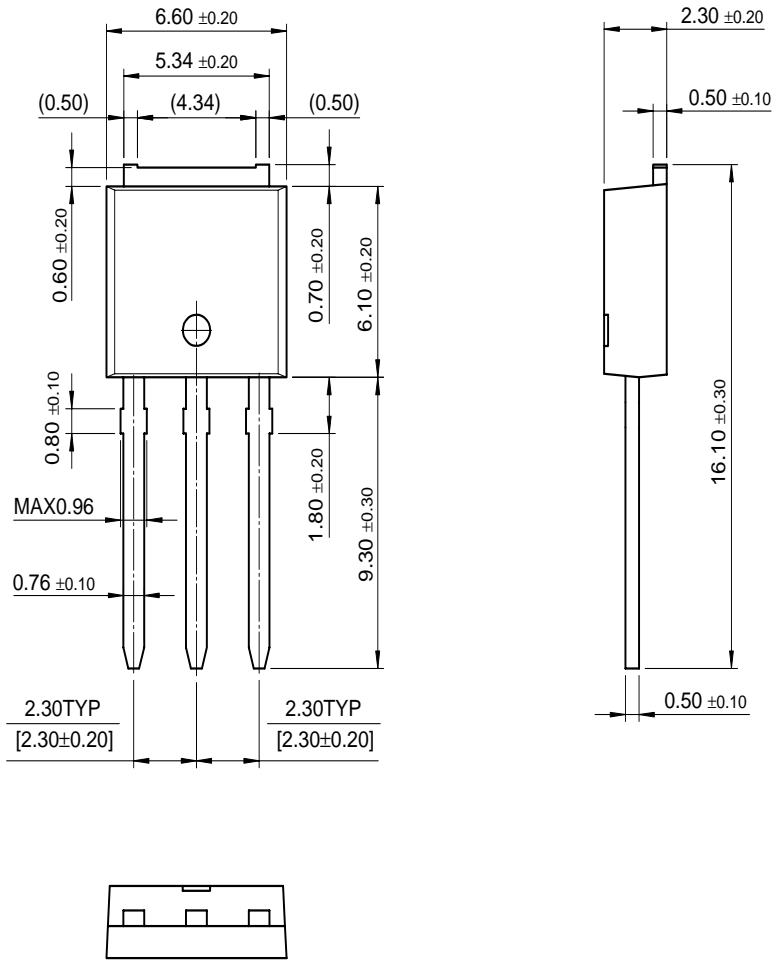
## D-PAK



Dimensions in Millimeters

Package Dimensions (Continued)

I-PAK



Dimensions in Millimeters

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Bottomless <sup>™</sup>	FAST <sup>®</sup>	LittleFET <sup>™</sup>	Power247 <sup>™</sup>	SuperSOT <sup>™</sup> -3
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