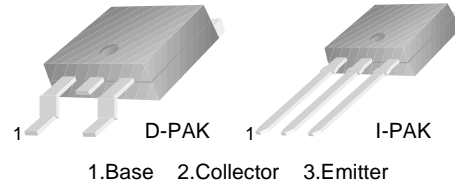


# KSH30/30C

## General Purpose Amplifier Low Speed Switching Applications

- Lead Formed for Surface Mount Application (No Suffix)
- Straight Lead (I-PAK, "- I" Suffix)
- Electrically Similar to Popular TIP30 and TIP30C



## 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		
	: KSH30	- 40	V
	: KSH30C	- 100	V
$V_{CEO}$	Collector-Emitter Voltage		
	: KSH30	- 40	V
	: KSH30C	- 100	V
$V_{EBO}$	Emitter-Base Voltage	- 5	V
$I_C$	Collector Current (DC)	- 1	A
$I_{CP}$	Collector Current (Pulse)	- 3	A
$I_B$	Base Current	- 0.4	A
$P_C$	Collector Dissipation ( $T_C=25^\circ\text{C}$ )	15	W
	Collector Dissipation ( $T_a=25^\circ\text{C}$ )	1.56	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				
	: KSH30	$I_C = - 30\text{mA}, I_B = 0$	- 40		V
	: KSH30C		- 100		V
$I_{CEO}$	Collector Cut-off Current				
	: KSH30	$V_{CE} = - 40\text{V}, I_B = 0$		- 50	$\mu\text{A}$
	: KSH30C	$V_{CE} = - 60\text{V}, I_B = 0$		- 50	$\mu\text{A}$
$I_{CES}$	Collector Cut-off Current				
	: KSH30	$V_{CE} = - 40\text{V}, V_{BE} = 0$		- 20	$\mu\text{A}$
	: KSH30C	$V_{CE} = 100\text{V}, V_{BE} = 0$		- 20	$\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{BE} = - 5\text{V}, I_C = 0$		- 1	mA
$h_{FE}$	* DC Current Gain	$V_{CE} = - 4\text{V}, I_C = - 0.2\text{A}$	40		
		$V_{CE} = - 4\text{V}, I_C = - 1\text{A}$	15	75	
$V_{CE(sat)}$	* Collector-Emitter Saturation Voltage	$I_C = - 1\text{A}, I_B = - 125\text{mA}$		- 0.7	V
$V_{BE(on)}$	* Base-Emitter On Voltage	$V_{CE} = - 4\text{A}, I_C = - 1\text{A}$		- 1.3	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = - 10\text{V}, I_C = - 200\text{mA}$	3		MHz

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

# Typical Characteristics

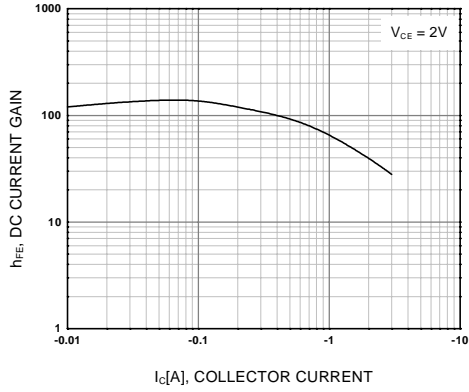


Figure 1. DC current Gain

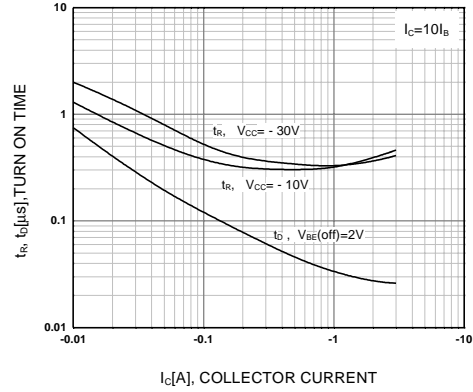


Figure 2. Turn On Time

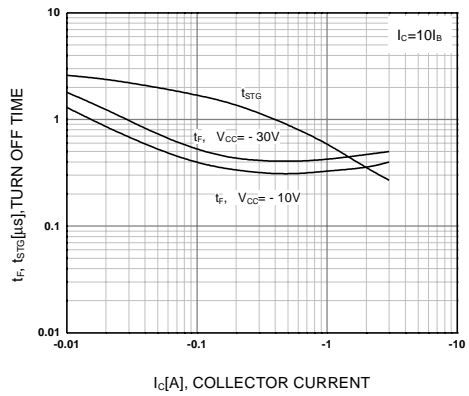


Figure 3. Turn Off Time

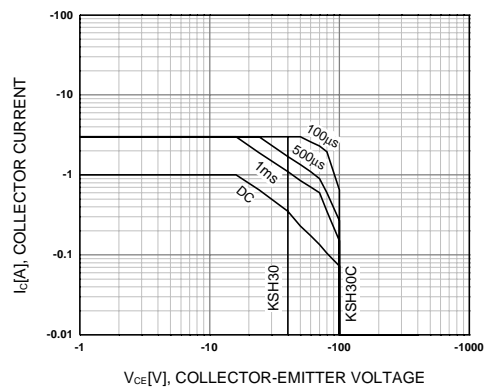


Figure 4. Safe Operating Area

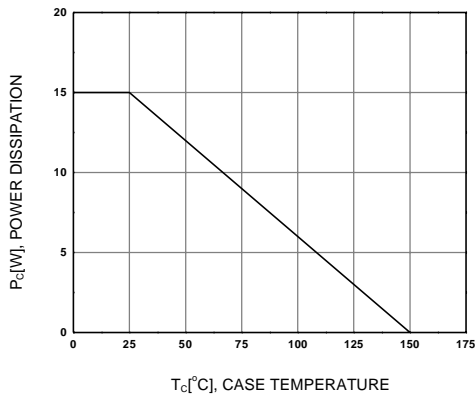


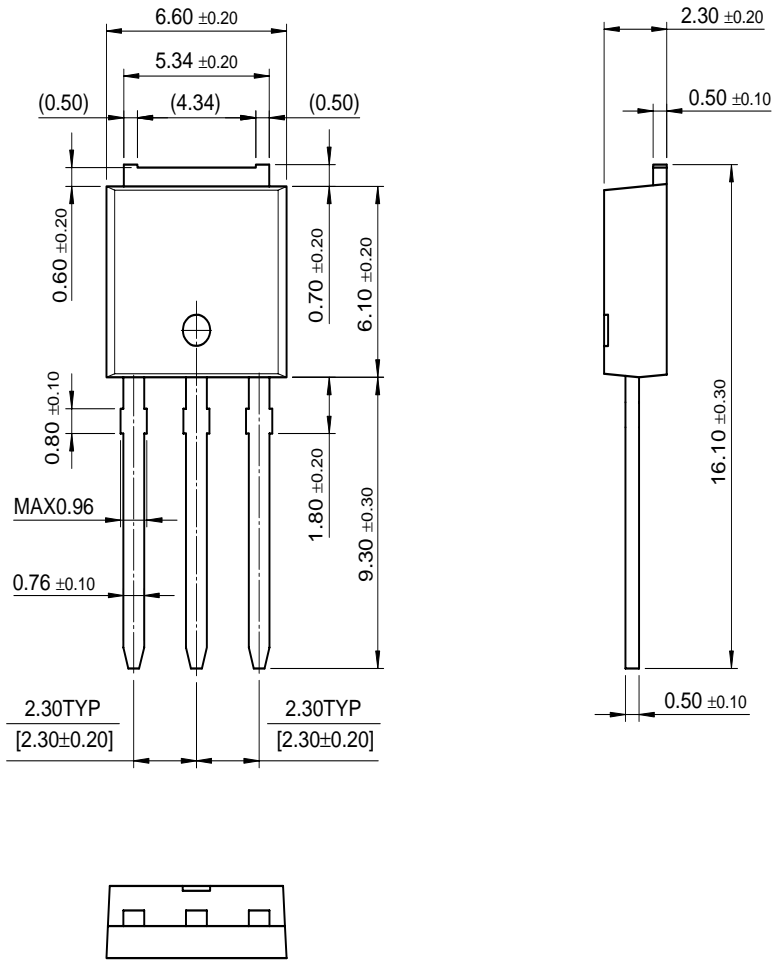
Figure 5. Power Derating



# Package Dimensions (Continued)

KSH30/30C

## I-PAK



Dimensions in Millimeters

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