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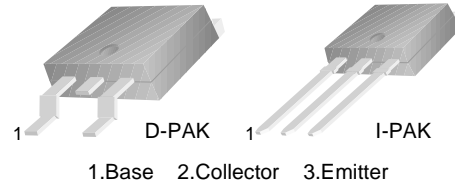
ON Semiconductor®

# KSH42C

KSH42C

## 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 TIP42C



## 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	-100	V
$V_{CEO}$	Collector-Emitter Voltage	-100	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current (DC)	-6	A
$I_{CP}$	Collector Current (Pulse)	-10	A
$I_B$	Base Current	-2	A
$P_C$	Collector Dissipation ( $T_C=25^\circ\text{C}$ )	20	W
	Collector Dissipation ( $T_a=25^\circ\text{C}$ )	1.75	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	$I_C = -30\text{mA}, I_B = 0$	-100		V
$I_{CEO}$	Collector Cut-off Current	$V_{CE} = -60\text{V}, I_B = 0$		-50	$\mu\text{A}$
$I_{CES}$	Collector Cut-off Current	$V_{CE} = -100\text{V}, V_{BE} = 0$		-10	$\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{BE} = -5\text{V}, I_C = 0$		-0.5	mA
$h_{FE}$	* DC Current Gain	$V_{CE} = -4\text{V}, I_C = -0.3\text{A}$	30		
		$V_{CE} = -4\text{V}, I_C = -3\text{A}$	15	75	
$V_{CE(sat)}$	* Collector-Emitter Saturation Voltage	$I_C = -6\text{A}, I_B = -600\text{mA}$		-1.5	V
$V_{BE(on)}$	* Base-Emitter On Voltage	$V_{CE} = -6\text{A}, I_C = -4\text{A}$		-2	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = -10\text{V}, I_C = -500\text{mA}$	3		MHz

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

# Typical Characteristics

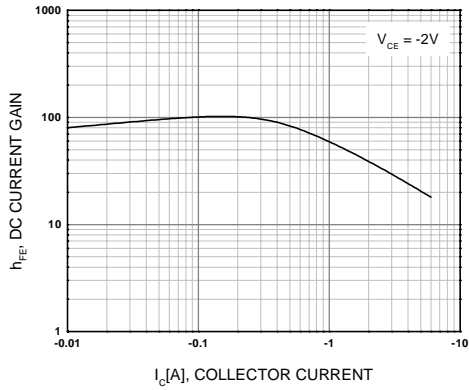


Figure 1. DC current Gain

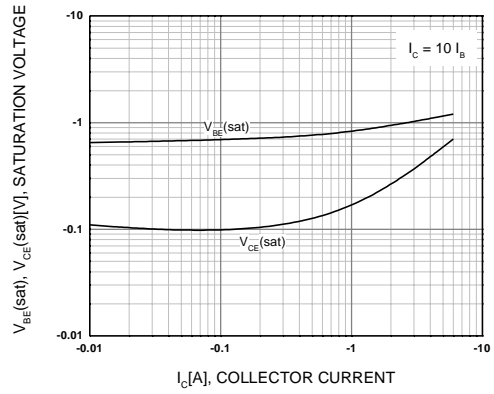


Figure 2. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

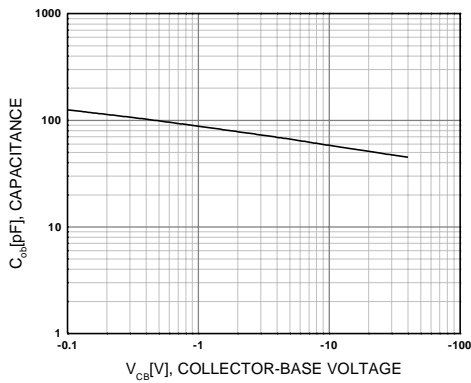


Figure 3. Collector Capacitance

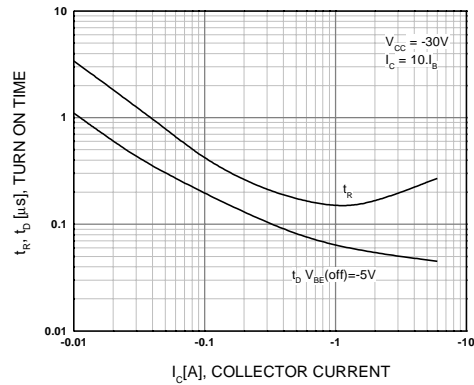


Figure 4. Turn On Time

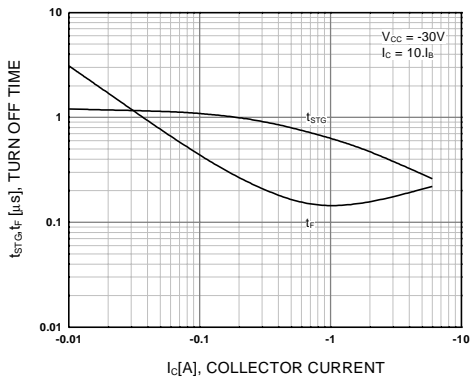


Figure 5. Turn Off Time

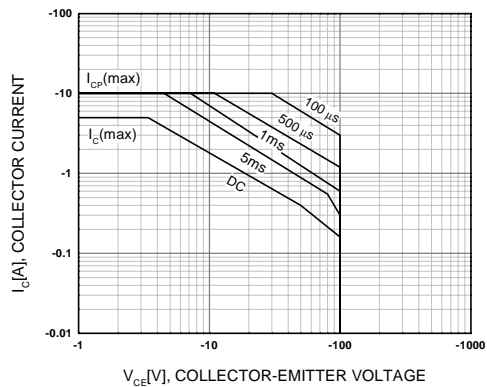


Figure 6. Safe Operating Area

### Typical Characteristics (Continued)

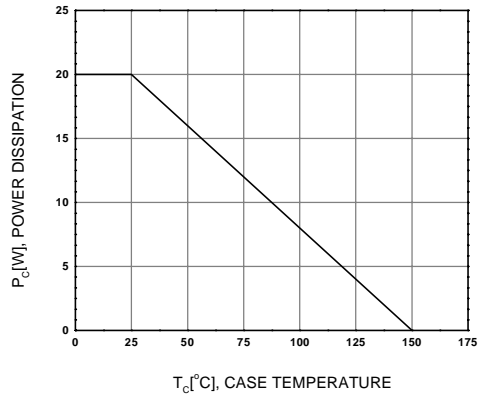
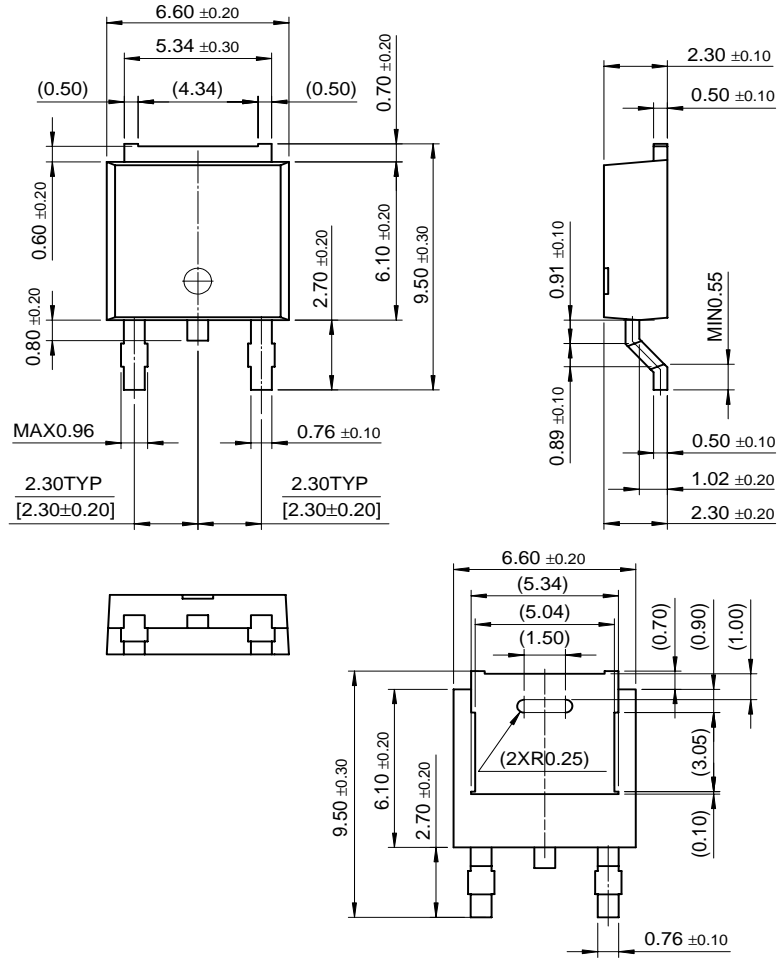


Figure 7. Power Derating

# Package Dimensions

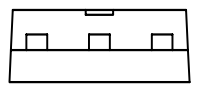
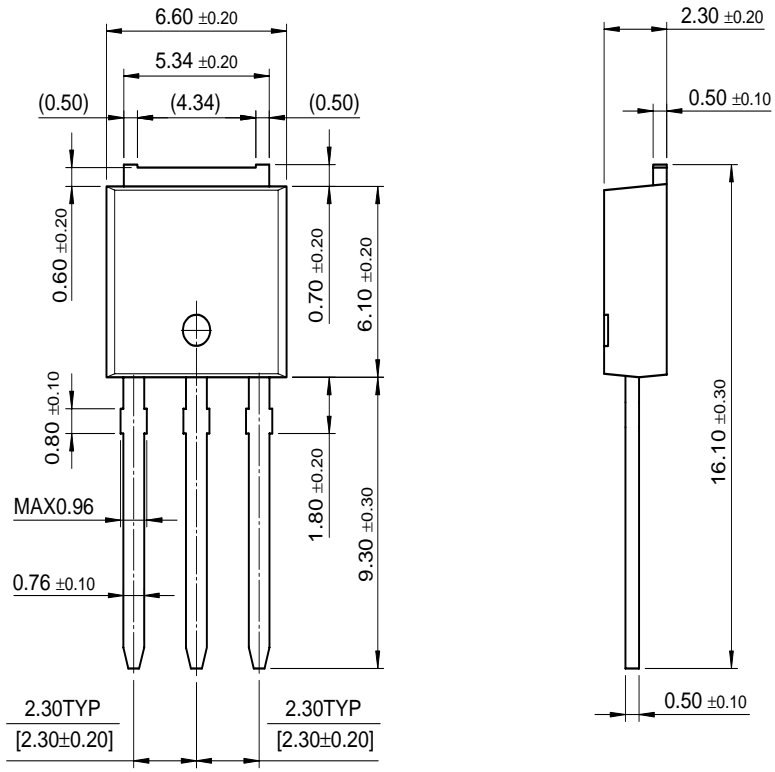
## D-PAK




Dimensions in Millimeters

Package Dimensions (Continued)

I-PAK



Dimensions in Millimeters

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