

KSH44H11

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General Purpose Power and Switching Such as Output or Driver Stages in Applications D-PAK for Surface Mount Applications

- Load Formed for Surface Mount Application (No Suffix)
- Straight Lead (I-PAK, "- I" Suffix)
- Electrically Similar to Popular KSE44H
- Fast Switching Speeds
- Low Collector Emitter Saturation Voltage



NPN Epitaxial Silicon Transistor

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

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current (DC)	8	A
I_{CP}	Collector-Current (Pulse)	16	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.	Typ.	Max.	Units
$V_{CEO(sus)}$	* Collector-Emitter Sustaining Voltage	$I_C = 30\text{mA}, I_B = 0$	80			V
I_{CEO}	Collector Cut-off Current	$V_{CE} = 80\text{V}, I_B = 0$			10	μA
I_{EBO}	Emitter Cut-off Current	$V_{BE} = 5\text{V}, I_C = 0$			50	μA
h_{FE}	DC Current Gain	$V_{CE} = 1\text{V}, I_C = 2\text{A}$ $V_{CE} = 1\text{V}, I_C = 4\text{A}$	60 40			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 8\text{A}, I_B = 0.4\text{A}$			1	V
$V_{BE(on)}$	Base-Emitter ON Voltage	$I_C = 8\text{A}, I_B = 0.8\text{A}$			1.5	V
f_T	Current Gain Bandwidth Product	$V_{CE} = 10\text{V}, I_C = 0.5\text{A}$		50		MHz
C_{ob}	Output Capacitance	$V_{CB} = 10\text{V}, f = 1\text{MHz}$		130		pF
t_{ON}	Turn ON Time	$I_C = 5\text{A}$ $I_{B1} = - I_{B2} = 0.5\text{A}$		300		ns
t_{STG}	Storage Time			500		ns
t_F	Fall Time			140		ns

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

Typical Characteristics

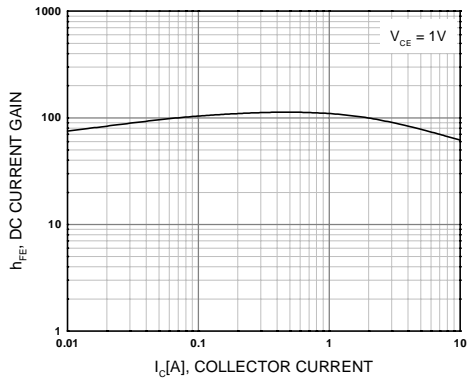


Figure 1. DC current Gain

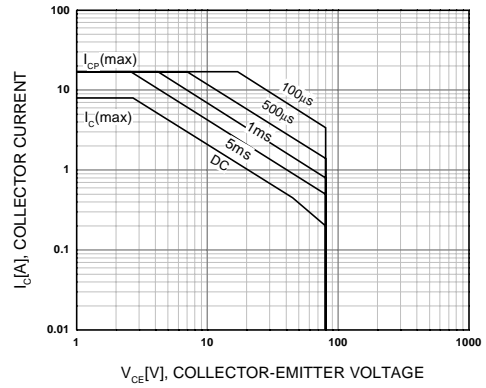


Figure 2. Safe Operating Area

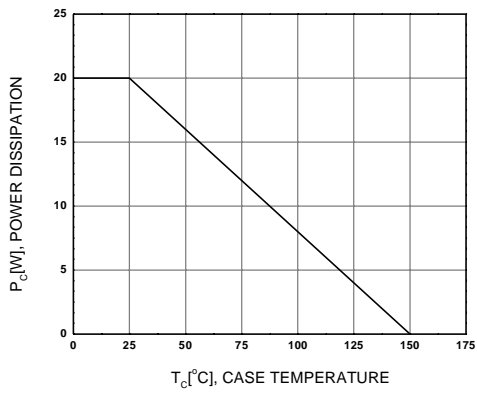


Figure 3. Power Derating

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