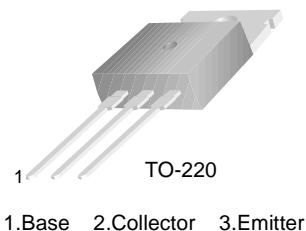


KSE45H Series

General Purpose Power Switching Applications

- Low Collector-Emitter Saturation Voltage: $V_{CE(sat)} = -1V$ (MAX) @ -8A
- Fast Switching Speeds
- Complement to KSE44H



PNP Epitaxial Silicon Transistor

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

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage : KSE45H 1,2	- 30	V
	: KSE45H 4,5	- 45	V
	: KSE45H 7,8	- 60	V
	: KSE45H 10,11	- 80	V
V_{EBO}	Emitter - Base Voltage	- 5	V
I_C	Collector Current (DC)	- 10	A
I_{CP}	*Collector Current (Pulse)	- 20	A
P_C	Collector Dissipation ($T_C=25^\circ\text{C}$)	50	W
P_C	Collector Dissipation ($T_a=25^\circ\text{C}$)	1.67	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	- 55 ~ 150	$^\circ\text{C}$

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

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
I_{CES}	Collector Cut-off Current	$V_{CE} = \text{Rated}, V_{CEO}, V_{EB} = 0$			-10	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = -5V, I_C = 0$			-100	μA
h_{FE}	*DC Current Gain : KSE45H 1, 4, 7 10 : KSE45H 2, 5, 8, 11	$V_{CE} = -1V, I_C = -2A$	35 60			
$V_{CE(sat)}$	*Collector-Emitter Saturation Voltage : KSE45H 1, 4, 7 10 : KSE45H 2, 5, 8, 11	$I_C = -8A, I_B = -0.8A$ $I_C = -8A, I_B = -0.4A$			-1 -1	V V
$V_{BE(sat)}$	*Base-Emitter Saturation Voltage	$I_C = -8A, I_B = -0.8A$			-1.5	V
f_T	Current Gain Bandwidth Product	$V_{CE} = -10V, I_C = -0.5A$		40		MHz
C_{ob}	Output Capacitance	$V_{CB} = -10V, f = 1\text{MHz}$		230		pF
t_{ON}	Turn ON Time	$V_{CC} = 20V, I_C = -5A$ $I_{B1} = -I_{B2} = -0.5A$		135		ns
t_{STG}	Storage Time			500		ns
t_F	Fall Time			100		ns

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

Typical Characteristics

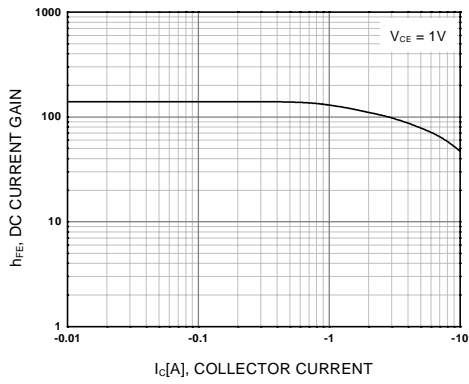


Figure 1. DC current Gain

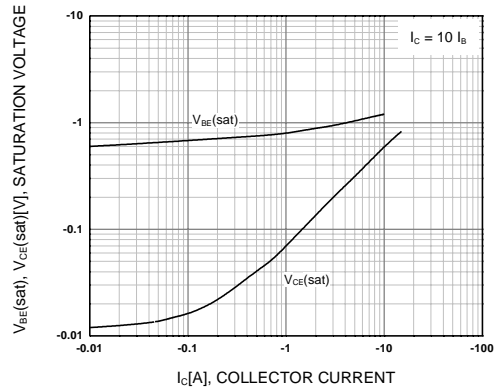


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

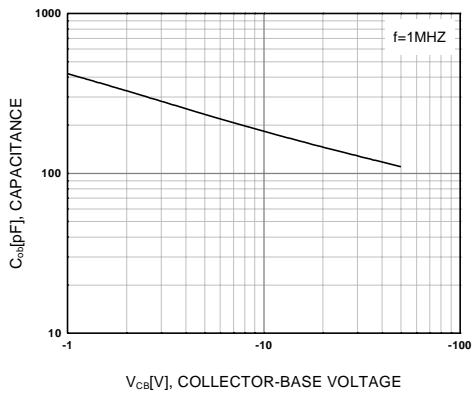


Figure 3. Collector Output Capacitance

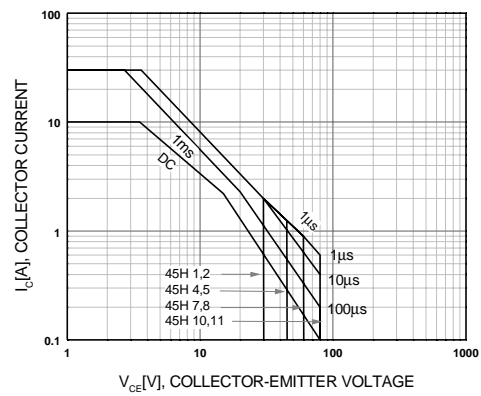


Figure 4. Safe Operating Area

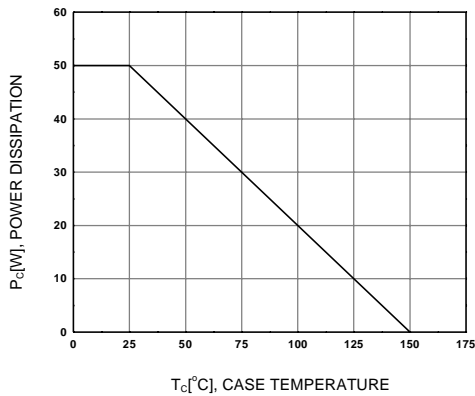
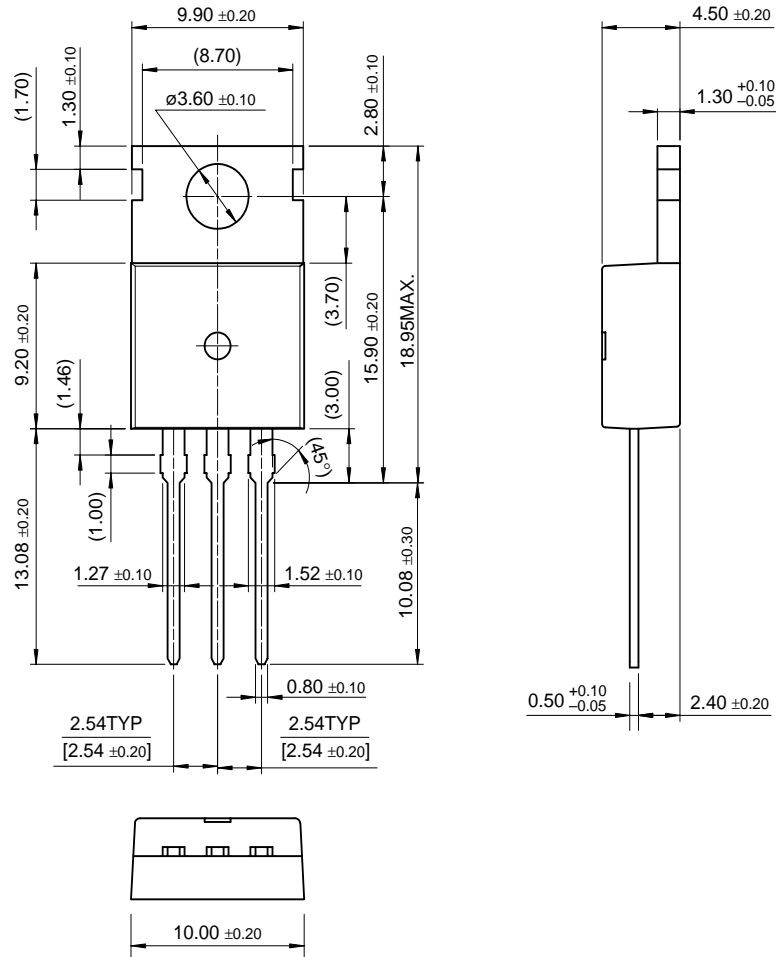


Figure 5. Power Derating

Package Dimensions

TO-220



Dimensions in Millimeters

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