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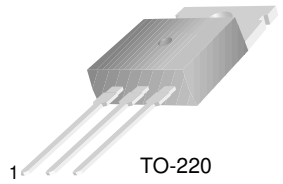
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FAIRCHILD
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KSE45H Series

General Purpose Power Switching Applications

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



TO-220

1.Base 2.Collector 3.Emitter

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage : KSE45H 1,2 : KSE45H 4,5 : KSE45H 7,8 : KSE45H 10,11	- 30 - 45 - 60 - 80	V V V 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°C)	50	W
P_C	Collector Dissipation (T_a=25°C)	1.67	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	- 55 ~ 150	°C

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
I_{CES}	Collector Cut-off Current	V_{CE} = 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 = 1MHz		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≤300μs, Duty cycle≤2%

Typical Characteristics

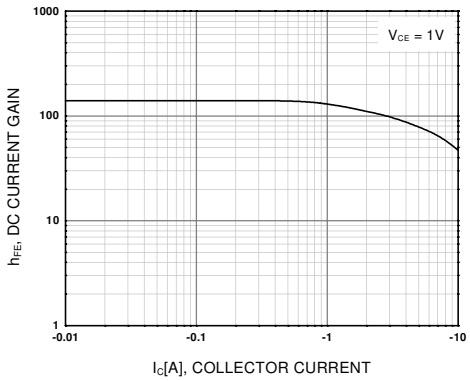


Figure 1. DC current Gain

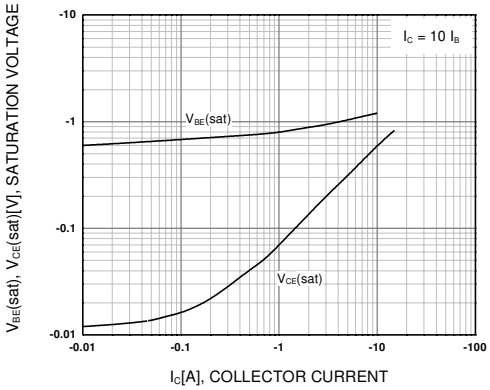


Figure 2. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

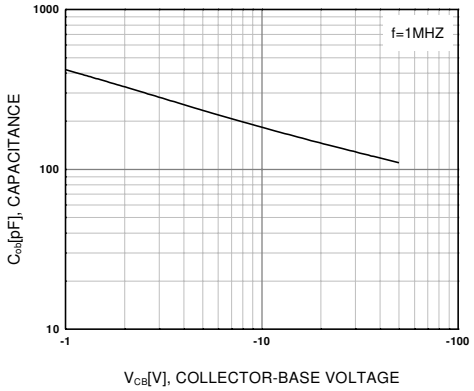


Figure 3. Collector Output Capacitance

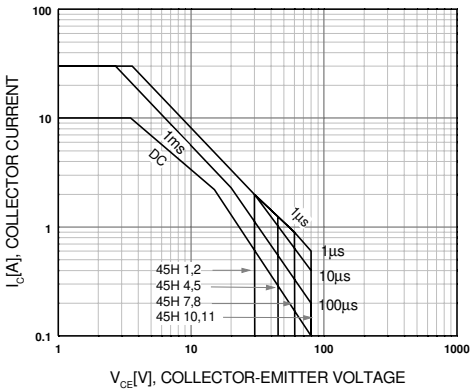


Figure 4. Safe Operating Area

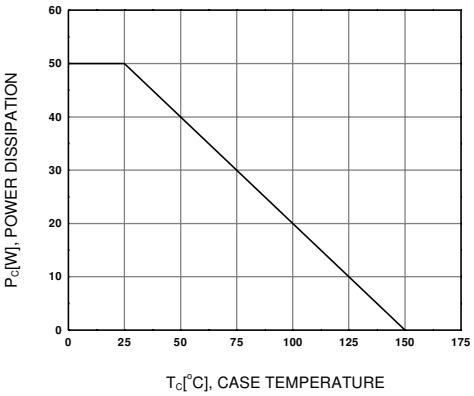
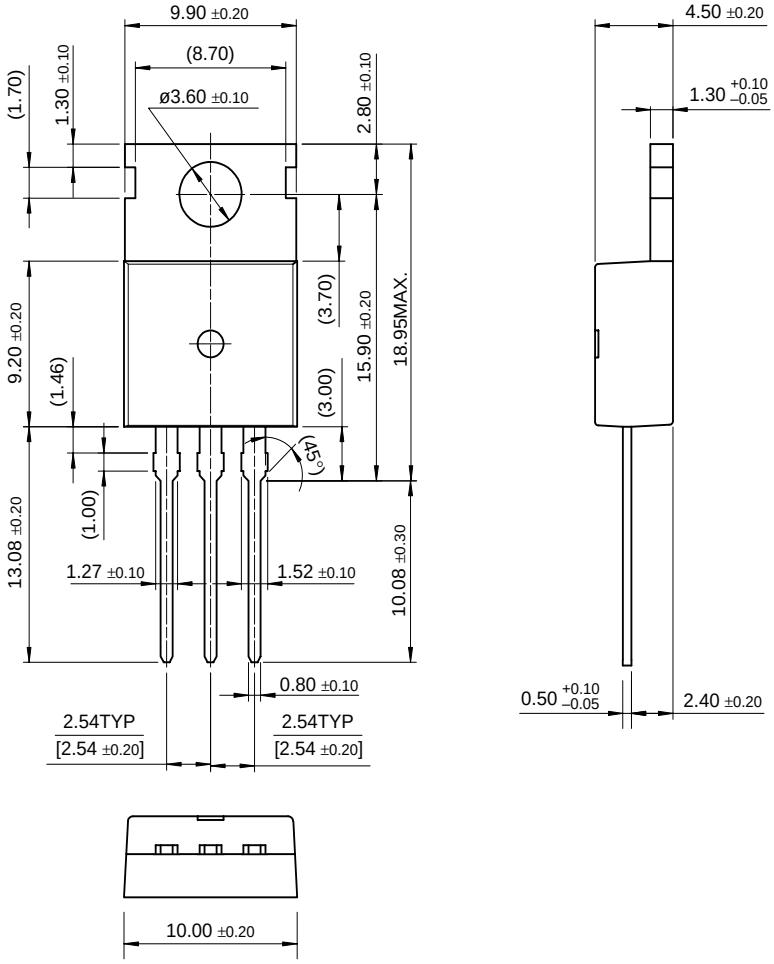


Figure 5. Power Derating

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TO-220



Dimensions in Millimeters

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