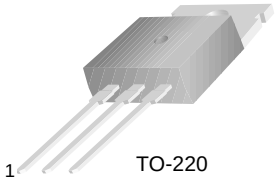
FAIRCHILD
SEMICONDUCTOR®

KSC2335

High Speed, High Voltage Switching

- Industrial Use



TO-220

1.Base 2.Collector 3.Emitter

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	500	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current (DC)	7	A
I_{CP}	*Collector Current (Pulse)	15	A
I_B	Base Current (DC)	3.5	A
P_C	Collector Dissipation (T_a=25°C)	1.5	W
P_C	Collector Dissipation (T_C=25°C)	40	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	- 55 ~ 150	°C

* PW≤300μs, Duty Cycle≤10%

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
V_{CEO}(sus)	Collector-Emitter Sustaining Voltage	I_C = 3A, I_{B1} = 0.6A, L = 1mH	400		V
V_{CEX}(sus)1	Collector-Emitter Sustaining Voltage	I_C = 3A, I_{B1} = -I_{B2} = 0.6A V_{BE}(off) = -5V, L = 180μH, Clamped	450		V
V_{CEX}(sus)2	Collector-Emitter Sustaining Voltage	I_C = 6A,I_{B1}= 2A, I_{B2} = -0.6A V_{BE}(off) = -5V, L = 180μH, Clamped	400		V
I_{CBO}	Collector Cut-off Current	V_{CB} = 400V, I_E = 0		10	μA
I_{CER}	Collector Cut-off Current	V_{CE} = 400V, R_{BE}= 51Ω @ T_C=125°C		1	mA
I_{CEX1}	Collector Cut-off Current	V_{CE} = 400V, V_{BE}(off)= -1.5V		10	μA
I_{CEX2}	Collector Cut-off Current	V_{CE} = 400V, V_{BE}(off)= -1.5V @ T_C=125°C		1	mA
I_{EBO}	Emitter Cut-off Current	V_{EB} = 5V, I_C = 0		10	μA
h_{FE1} h_{FE2} h_{FE3}	* DC Current Gain	V_{CE} = 5V, I_C = 0.1A V_{CE} = 5V, I_C = 1A V_{CE} = 5V, I_C = 3A	20 20 10	80 80	
V_{CE}(sat)	* Collector-Emitter Saturation Voltage	I_C = 3A, I_B = 0.6A		1	V
V_{BE}(sat)	* Base-Emitter Saturation Voltage	I_C = 3A, I_B = 0.6A		1.2	V
t_{ON}	Turn ON Time	V_{CC} =150V, I_C= 3A I_{B1} = -I_{B2} = 0.6A R_L= 50Ω		1	μs
t_{STG}	Storage Time			2.5	μs
t_F	Fall Time			1	μs

* Pulse Test: PW≤350μs, Duty Cycle≤2% Pulsed

h_{FE} Classification

Classification	R	O	Y
h_{FE2}	20 ~ 40	30 ~ 60	40 ~ 80

Typical Characteristics

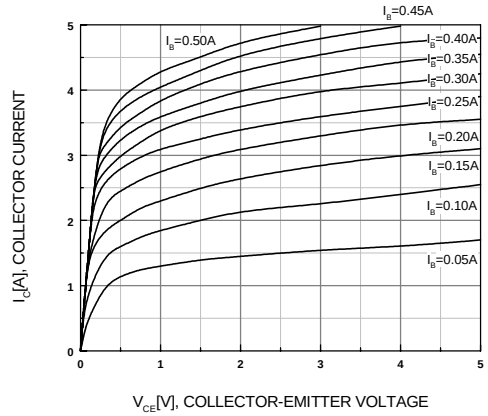


Figure 1. Static Characteristic

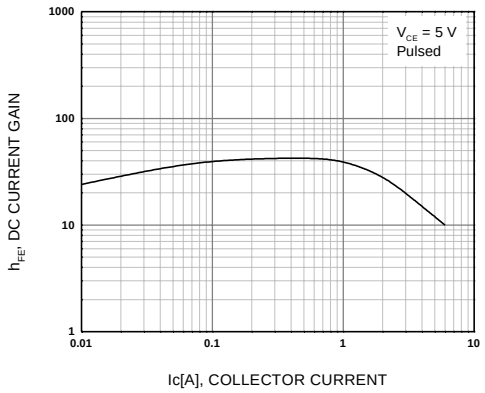


Figure 2. DC current Gain

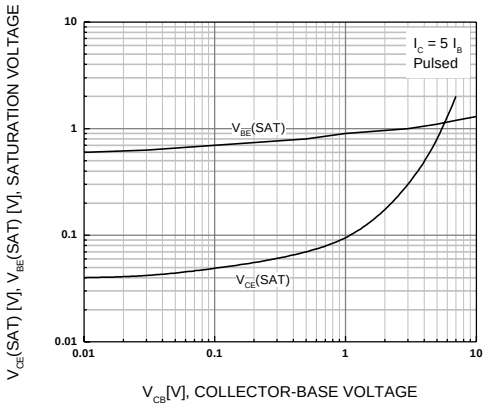


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

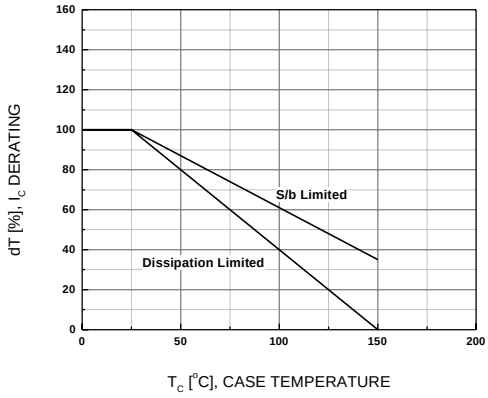


Figure 4. Derating Curve of Safe Operating Areas

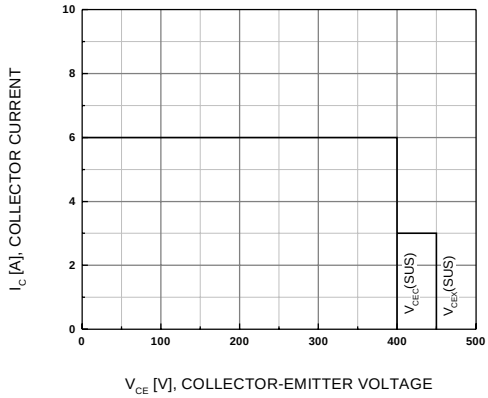


Figure 5. Reverse Bias Safe Operating Area

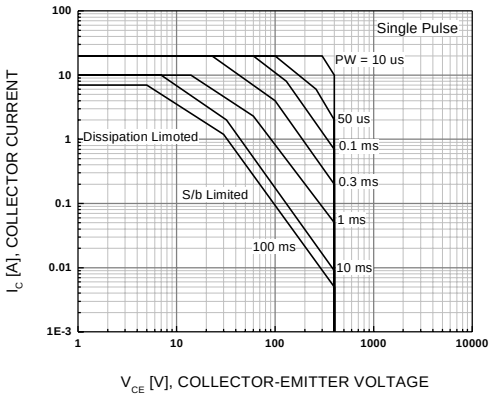
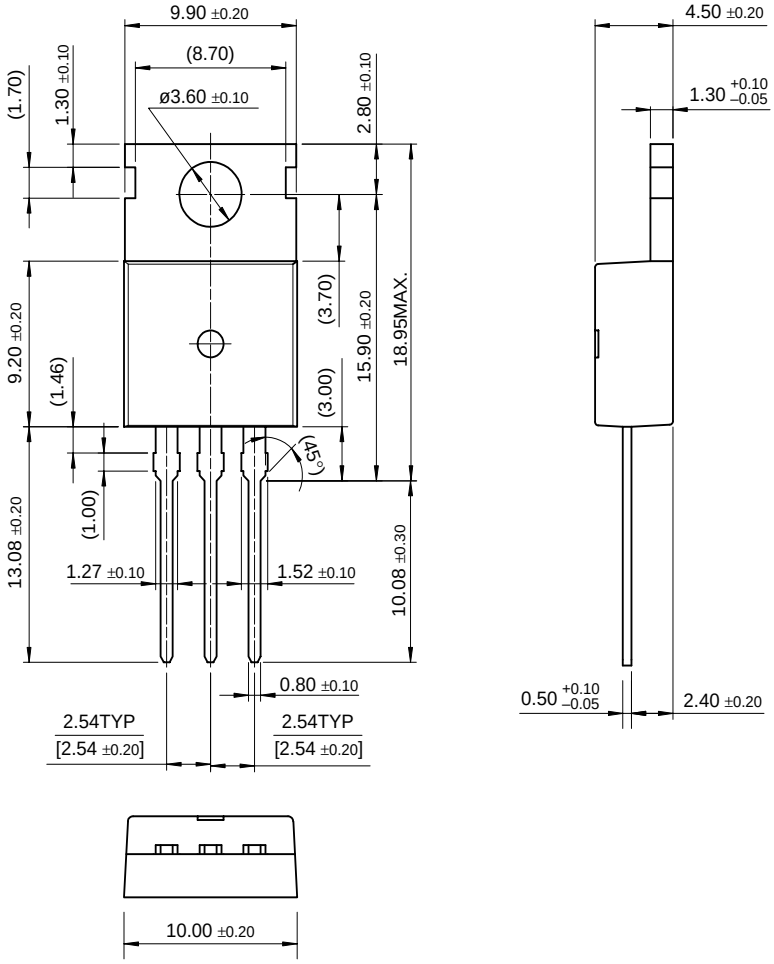


Figure 6. Forward Bias Safe Operating Area

Package Demensions

TO-220



Dimensions in Millimeters

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