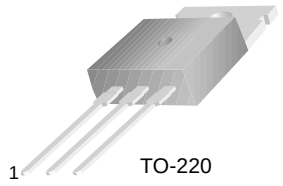
FAIRCHILD
SEMICONDUCTOR TM

KSC2517

High Speed 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	150	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	12	V
I_C	Collector Current (DC)	5	A
I_{CP}	Collector Current (Pulse)	10	A
P_C	Collector Dissipation (T_a=25°C)	1.5	W
P_C	Collector Dissipation (T_C=25°C)	30	W
I_B	Base Current	2.5	A
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} = 0.3A, L = 1mH	100		V
V_{CEX}(sus)1	Collector-Emitter Sustaining Voltage	I_C = 3A, I_{B1} = -I_{B2} = 0.3A V_{BE}(off) = -5V, L = 180μH, Clamped	150		V
V_{CEX}(sus)2	Collector-Emitter Sustaining Voltage	I_C =6A, I_{B1} = 1.2A, I_{B2} = -0.3A, V_{BE}(off) = -5V, L = 180μH, Clamped	100		V
I_{CBO}	Collector Cut-off Current	V_{CB} = 100V, I_E = 0		10	μA
I_{CER}	Collector Cut-off Current	V_{CE} = 100V,R_{BE} = 51Ω@ T_C= 125°C		1	mA
I_{CEX1} I_{CEX2}	Collector Cut-off Current	V_{CE} = 100V, V_{BE}(off) = -1.5V V_{CE} = 100V, V_{BE}(off) = -1.5V @ T_C= 125°C		10 1	μA mA
I_{EBO}	Emitter Cut-off Current	V_{EB} = 10V, I_C = 0		10	μA
h_{FE1} h_{FE2}	* DC Current Gain	V_{CE} = 5V, I_C = 0.2A V_{CE} = 5V, I_C = 2A	40 40	 200	
V_{CE}(sat)	* Collector-Emitter Saturation Voltage	I_C = 3A, I_B = 0.3A		0.6	V
V_{BE}(sat)	* Base-Emitter Saturation Voltage	I_C = 3A, I_B = 0.3A		1.5	V
t_{ON}	Turn ON Time	V_{CC} = 50V, I_C = 3A I_{B1} = -I_{B2} = 0.3A R_L= 17Ω		0.5	μs
t_{STG}	Storage Time			2.5	μs
t_F	Fall Time			0.5	μs

* Pulse Test: PW≤350μs, Duty Cycle≤2%

h_{FE} Classification

Classification	R	O	Y
h_{FE2}	40 ~ 80	60 ~ 120	100 ~ 200

Typical Characteristics

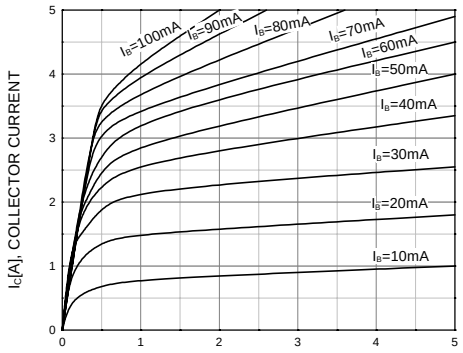


Figure 1. Static Characteristic

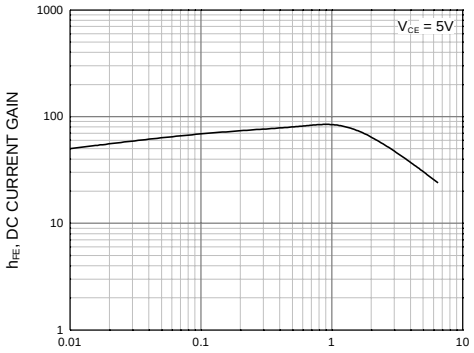


Figure 2. DC current Gain

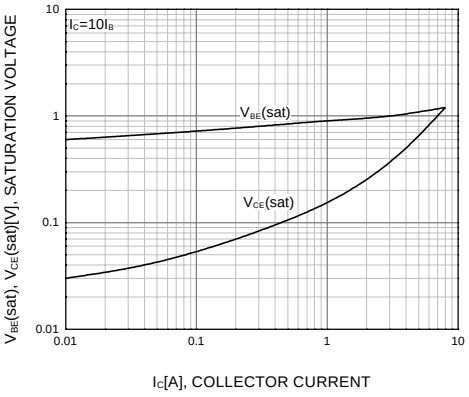


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

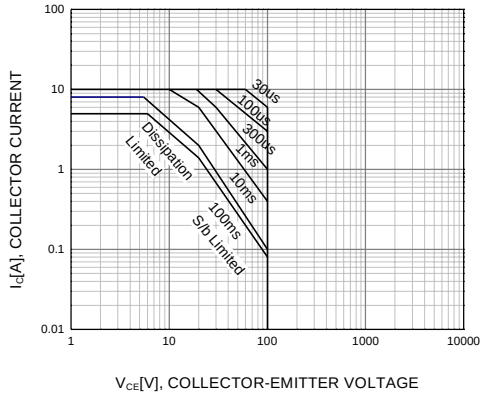


Figure 4. Safe Operating Area

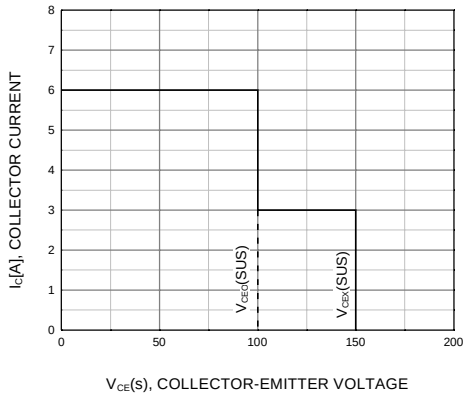


Figure 5. Reverse Bias Safe Operating Area

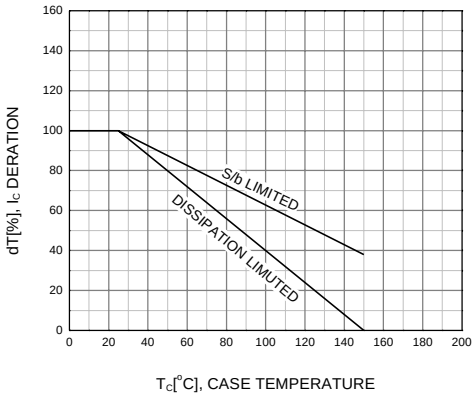


Figure 6. Derating Curve of Safe Operating Areas

Typical Characteristics (Continued)

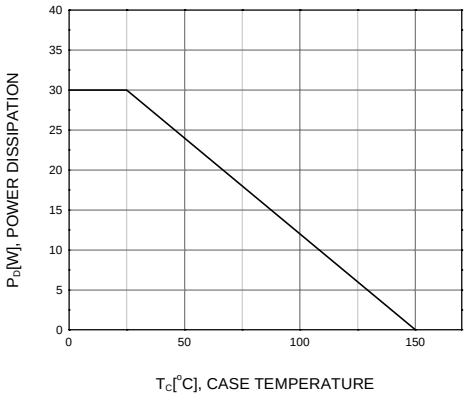
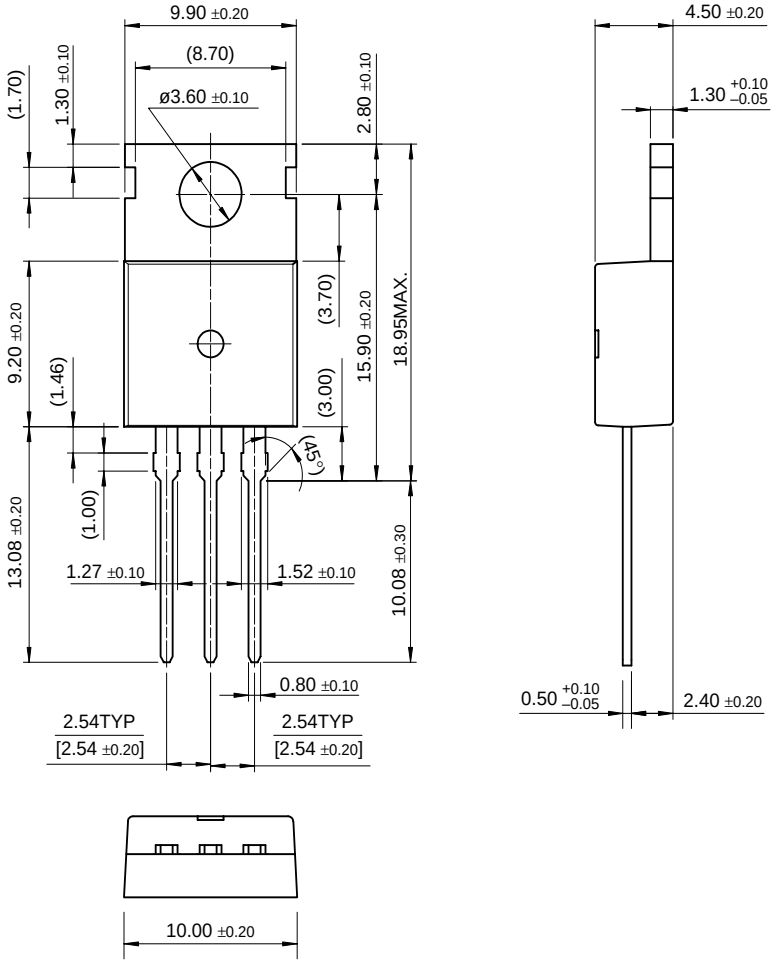


Figure 7. Power Derating

Package Demensions

TO-220



Dimensions in Millimeters

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