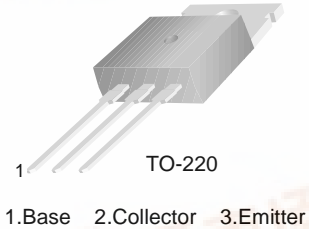


FAIRCHILD
SEMICONDUCTOR™

KSD1943

High Power Transistor



NPN Epitaxial Silicon Transistor

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	8	V
I_C	Collector Current	3	A
P_C	Collector Dissipation ($T_a=25^\circ\text{C}$)	40	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.	Max.	Units
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C = 25\text{mA}, I_B = 0$	60		V
I_{CBO}	Collector Cut-off Current	$V_{CB} = 80\text{V}, I_E = 0$		100	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 8\text{V}, I_C = 0$		10	μA
h_{FE}	DC Current Gain	$V_{CE} = 4\text{V}, I_C = 0.5\text{A}$	400	2000	
$V_{BE}(\text{sat})$	Base-Emitter Saturation Voltage	$I_C = 2\text{A}, I_B = 0.05\text{A}$		1.5	V
$V_{CE}(\text{sat})$	Collector-Emitter Saturation Voltage	$I_C = 2\text{A}, I_B = 0.05\text{A}$		1	V



Typical Characteristics

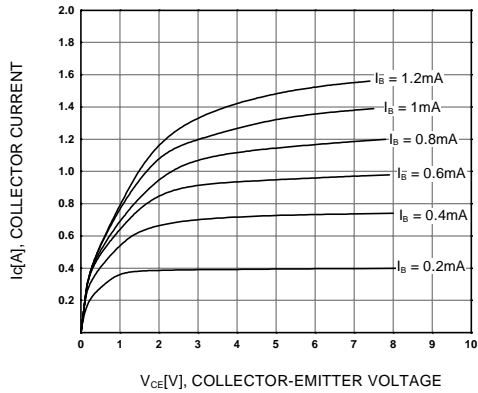


Figure 1. Static Characteristic

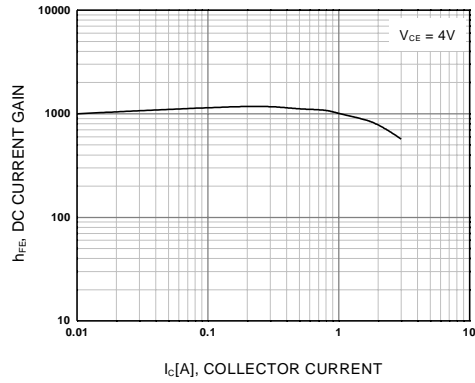


Figure 2. DC current Gain

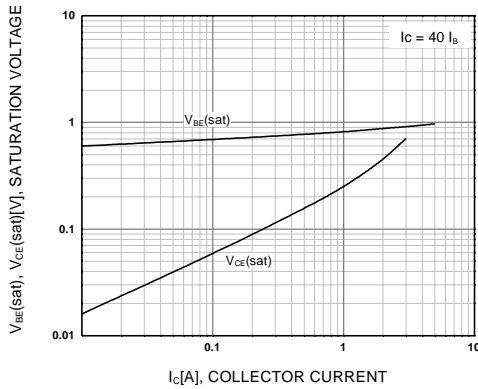


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

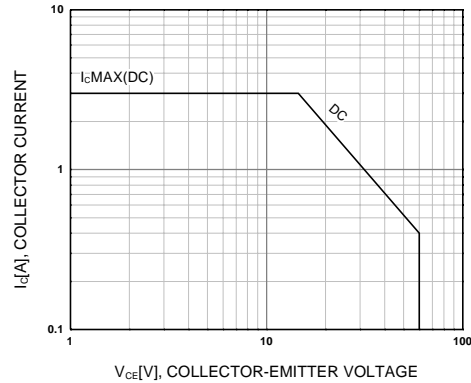


Figure 4. Safe Operating Area

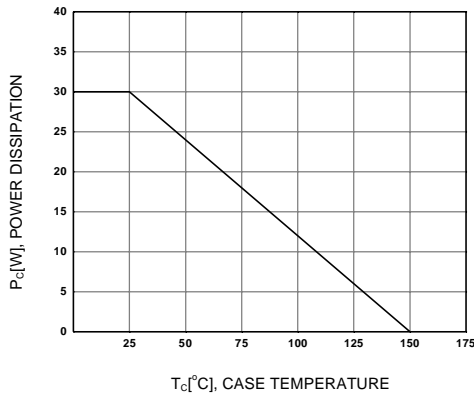
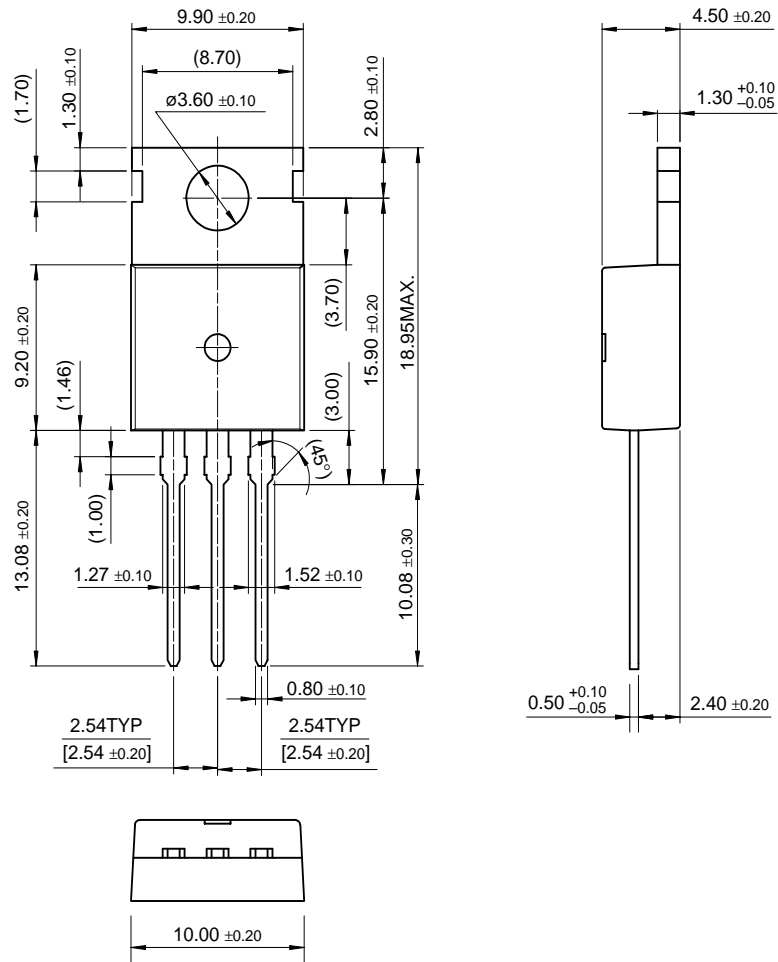


Figure 5. Power Derating

Package Dimensions

KSD1943

TO-220



Dimensions in Millimeters

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E ² CMOS™	PowerTrench®	VCX™
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