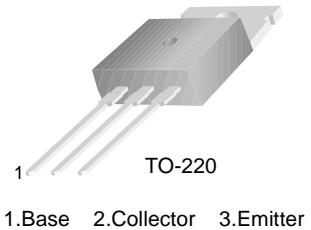


## KSD1943

### 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	$\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = 8\text{V}$ , $I_C = 0$		10	$\mu\text{A}$
$h_{FE}$	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

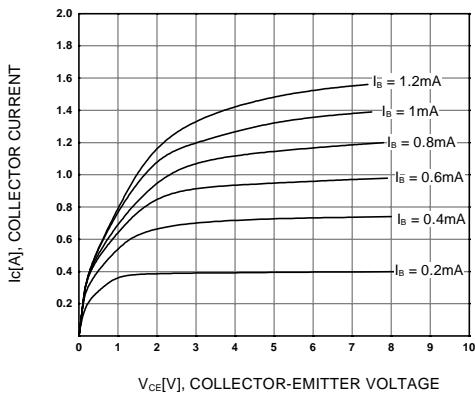


Figure 1. Static Characteristic

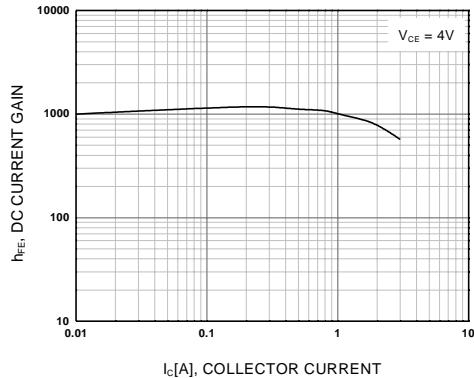


Figure 2. DC current Gain

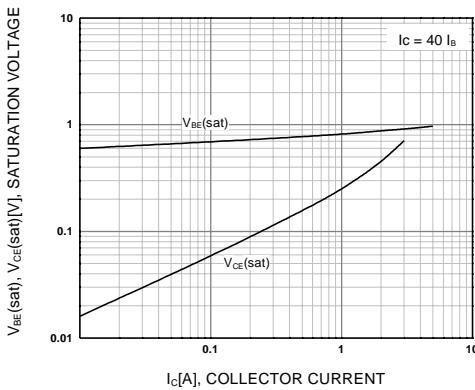


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

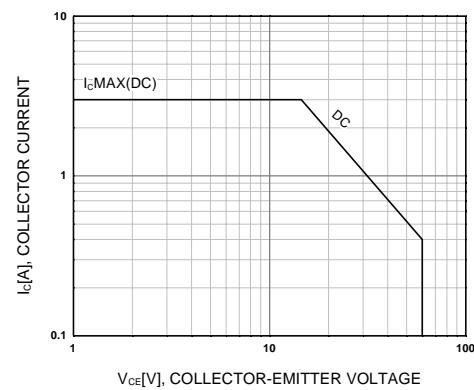


Figure 4. Safe Operating Area

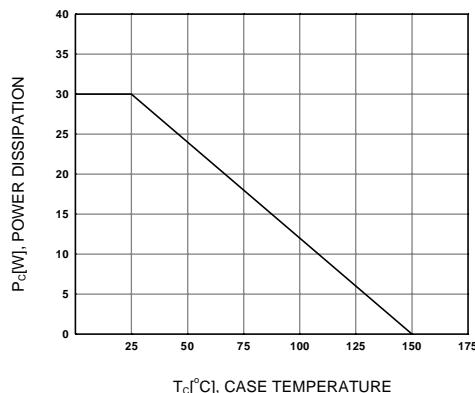
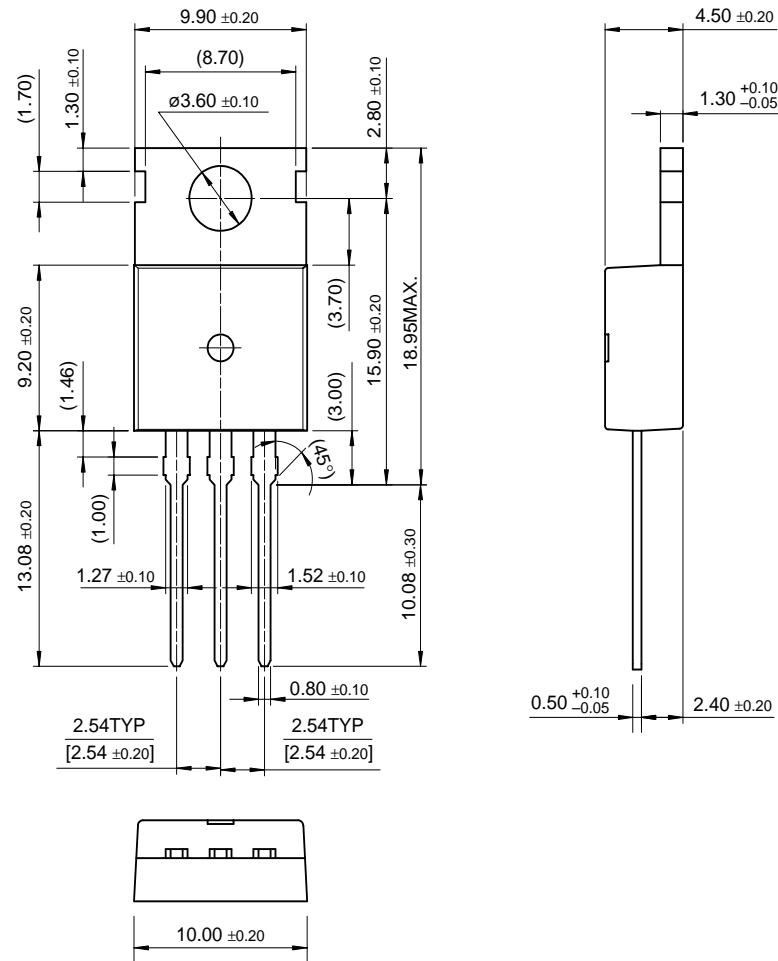


Figure 5. Power Derating

## Package Demensions

## TO-220



Dimensions in Millimeters

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