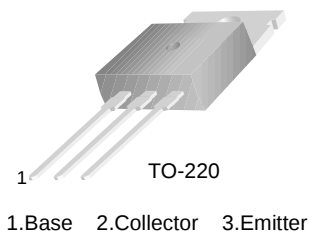


KSC1983

KSC1983

High Gain 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	6	V
I_C	Collector Current	3	A
I_B	Base Current	1	A
P_C	Collector Dissipation ($T_C=25^\circ\text{C}$)	30	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.	Typ.	Max.	Units
I_{CBO}	Collector Cut-off Current	$V_{CB} = 80\text{V}, I_E = 0$			100	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 6\text{V}, I_C = 0$			100	μA
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C = 25\text{mA}, I_B = 0$	60			V
h_{FE}	* DC Current Gain	$V_{CE} = 4\text{V}, I_C = 0.5\text{A}$	500			
$V_{CE(sat)}$	* Collector-Emitter Saturation Voltage	$I_C = 2\text{A}, I_B = 0.05\text{A}$			1	V
f_T	Current Gain Bandwidth Product	$V_{CE} = 12\text{V}, I_C = 0.2\text{A}$		15		MHz

* Pulse Test: $PW \leq 350\mu\text{s}$, Duty Cycle $\leq 2\%$ Pulsed

Typical Characteristics

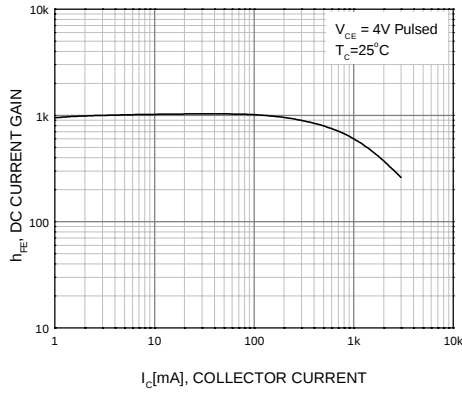


Figure 1. DC current Gain

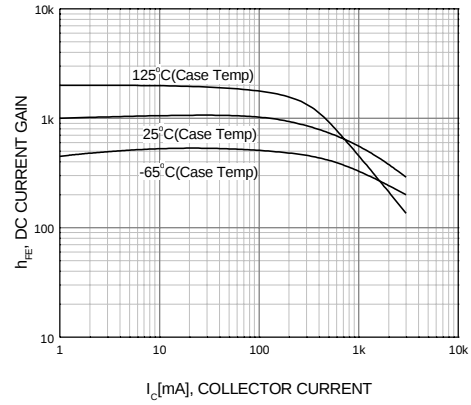


Figure 2. DC current Gain Temperature Characteristic

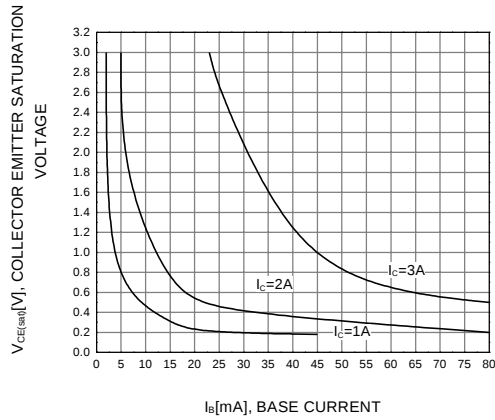


Figure 3. Collector-Emitter Saturation Characteristic

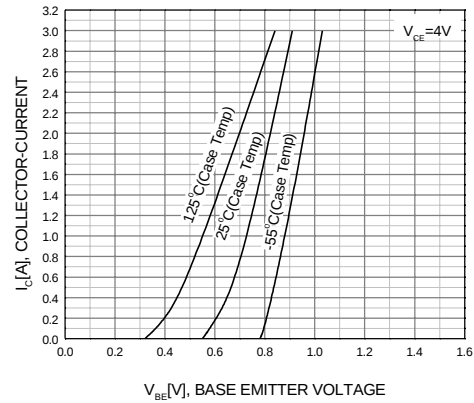


Figure 4. Base-Emitter On Voltage

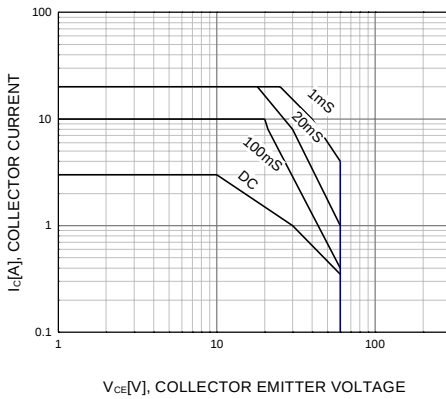


Figure 5. Safe Operating Area

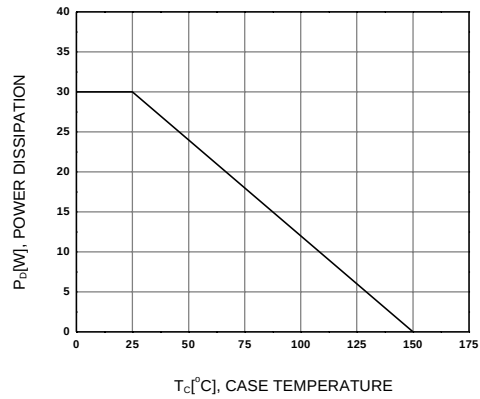


Figure 6. Power Derating

Package Dimensions

TO-220



Dimensions in Millimeters

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