

Low Saturation

- $V_{CE(sat)}=0.5V$ at $I_C=2A$, $I_B=50mA$



NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings $T_a=25^\circ C$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	30	V
V_{CES}	Collector-Emitter Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	10	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current (DC)	2	A
I_{CP}	* Collector Current (Pulse)	5	A
I_B	Base Current	2	A
P_C	Collector Power Dissipation	750	mW
T_J	Junction Temperature	150	$^\circ C$
T_{STG}	Storage Temperature	-55 ~ 150	$^\circ C$

* $PW \leq 10ms$, Duty Cycles $\leq 30\%$

Electrical Characteristics $T_a=25^\circ C$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
I_{CBO}	Collector Cut-off Current	$V_{CB}=30V, I_E=0$			100	nA
I_{EBO}	Emitter Cut-off Current	$V_{EB}=6V, I_C=0$			100	nA
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C=10mA, I_B=0$	10			V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E=1mA, I_C=0$	6			V
h_{FE1}	DC Current Gain	$V_{CE}=1V, I_C=0.5A$	140		600	
h_{FE2}		$V_{CE}=1V, I_C=2A$	70	200		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=2A, I_B=50mA$		0.2	0.5	V
$V_{BE(on)}$	Base Emitter On Voltage	$V_{CE}=1V, I_C=2A$		0.86	1.5	V
f_T	Current Gain Bandwidth Product	$V_{CE}=1V, I_C=0.5A$		150		MHz
C_{ob}	Output Capacitance	$V_{CB}=10V, I_E=0, f=1MHz$		27		pF

h_{FE} Classification

Classification	L	M	N	P
h_{FE}	140 ~ 240	200 ~ 330	300 ~ 450	420 ~ 600

Typical Characteristics

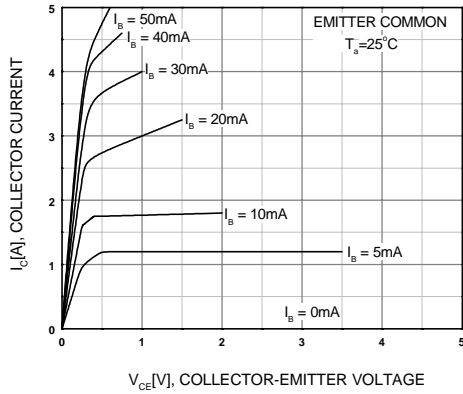


Figure 1. Static Characteristic

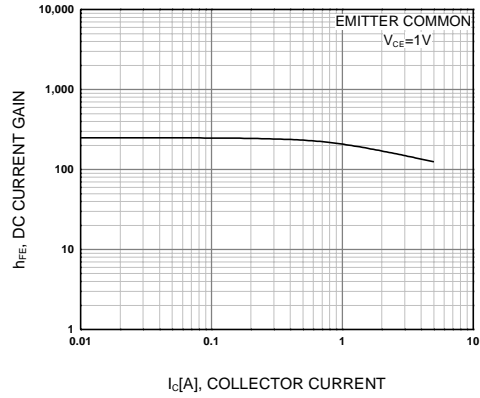


Figure 2. DC current Gain

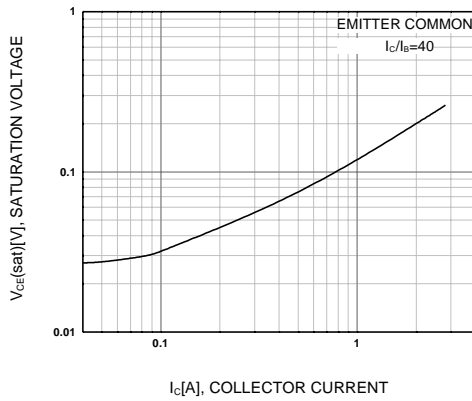


Figure 3. Collector-Emitter Saturation Voltage

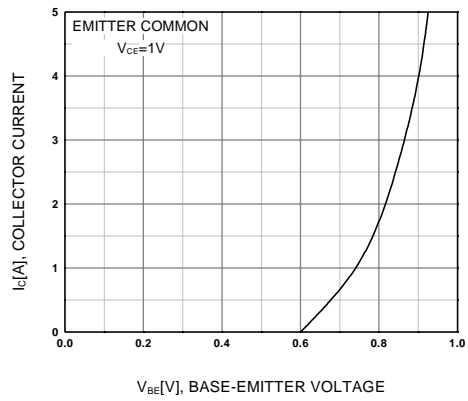


Figure 4. Base-Emitter On Voltage

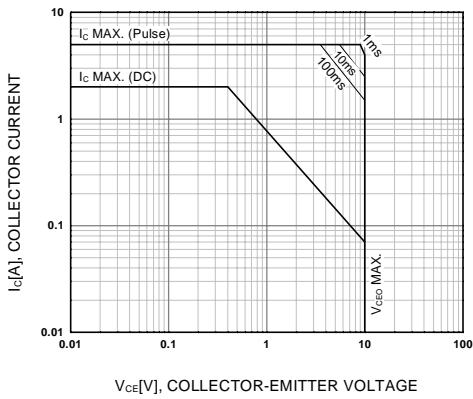


Figure 5. Safe Operating Area

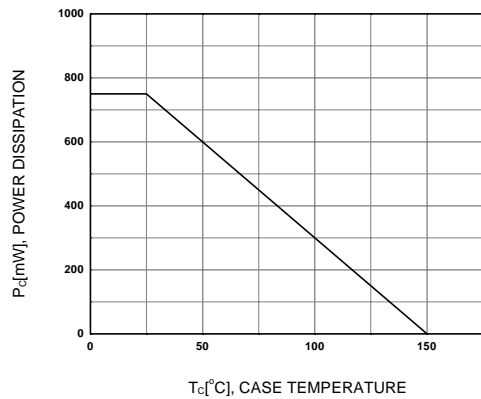


Figure 6. Power Derating

Package Dimensions

KSC5019

TO-92



Dimensions in Millimeters

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