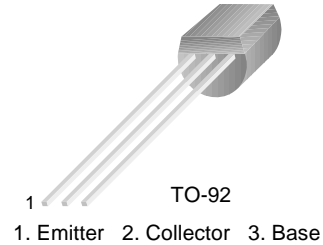


# KSC2001

KSC2001

## General Purpose Applications

- High  $h_{FE}$  and Low  $V_{CE(sat)}$



## NPN Epitaxial Silicon Transistor

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

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	30	V
$V_{CEO}$	Collector-Emitter Voltage	25	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current	700	mA
$I_B$	Base Current	150	mA
$P_C$	Collector Power Dissipation	600	mW
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

### Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$V_{BE(on)}$	* Base Emitter On Voltage	$V_{CE}=6\text{V}, I_C=10\text{mA}$	600	640	700	mV
$I_{CBO}$	Collector Cut-off Current	$V_{CB}=30\text{V}, I_E=0$			100	nA
$I_{EBO}$	Emitter Cut-off Current	$V_{EB}=5\text{V}, I_C=0$			100	nA
$h_{FE1}$ $h_{FE2}$	* DC Current Gain	$V_{CE}=1\text{V}, I_C=100\text{mA}$ $V_{CE}=1\text{V}, I_C=700\text{mA}$	90 50	200 140	400	
$V_{CE(sat)}$	* Collector-Emitter Saturation Voltage	$I_C=700\text{mA}, I_B=70\text{mA}$		0.2	0.6	V
$V_{BE(sat)}$	* Base-Emitter Saturation Voltage	$I_C=700\text{mA}, I_B=70\text{mA}$		0.95	1.2	V
$C_{ob}$	Output Capacitance	$V_{CB}=6\text{V}, I_E=0, f=1\text{MHz}$		13	25	pF
$f_T$	Current Gain Bandwidth Product	$V_{CE}=6\text{V}, I_C=10\text{mA}$	50	170		MHz

\* Pulse test:  $PW \leq 350\mu\text{s}$ , Duty cycles  $\leq 2\%$

## $h_{FE}$ Classification

Classification	O	Y	G
$h_{FE1}$	90 ~ 180	135 ~ 270	200 ~ 400

# Package Dimensions

## TO-92



Dimensions in Millimeters

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