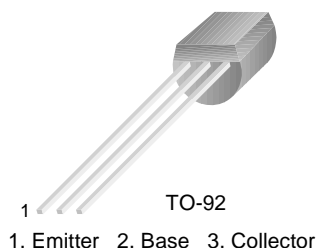


# KSP2222

KSP2222

## General Purpose Transistor

- Collector-Emitter Voltage:  $V_{CE0} = 30V$
- Collector Dissipation:  $P_C (\text{max}) = 625mW$



## NPN Epitaxial Silicon Transistor

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

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{CEO}$	Collector-Emitter Voltage	30	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current	600	mA
$P_C$	Collector Dissipation	625	mW
$T_J$	Junction Temperature	150	$^\circ C$
$T_{STG}$	Storage Temperature	-55 ~ 150	$^\circ C$

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

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C = 10\mu A, I_E = 0$	60			V
$BV_{CEO}$	Collector Emitter Breakdown Voltage	$I_C = 10mA, I_B = 0$	30			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E = 10\mu A, I_C = 0$	5			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = 50V, I_E = 0$			10	nA
$h_{FE}$	DC Current Gain	$V_{CE} = 10V, I_C = 0.1mA$ $V_{CE} = 10V, I_C = 1mA$ $V_{CE} = 10V, I_C = 10mA$ $V_{CE} = 10V, *I_C = 150mA$ $V_{CE} = 10V, *I_C = 500mA$	35 50 75 100 30		300	
$V_{CE} (\text{sat})$	* Collector-Emitter Saturation Voltage	$I_C = 150mA, I_B = 15mA$ $I_C = 500mA, I_B = 50mA$			0.4 1.6	V V
$V_{BE} (\text{sat})$	* Base Emitter Saturation Voltage	$I_C = 150mA, I_B = 15mA$ $I_C = 500mA, I_B = 50mA$			1.3 2.6	V V
$C_{ob}$	Output Capacitance	$V_{CB} = 10V, I_E = 0, f = 1MHz$			8	pF
$f_T$	Current Gain Bandwidth Product	$V_{CE} = 20V, I_C = 20mA$ $f = 100MHz$	250			MHz
$t_{ON}$	Turn On Time	$V_{CC} = 30V, V_{BE(\text{off})} = 0.5V$ $I_C = 150mA, I_{B1} = 15mA$			35	ns
$t_{OFF}$	Turn Off Time	$V_{CC} = 30V, I_C = 150mA$ $I_{B1} = I_{B2} = 15mA$			285	ns

\* Pulse Test: Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 2\%$

# Typical Characteristics

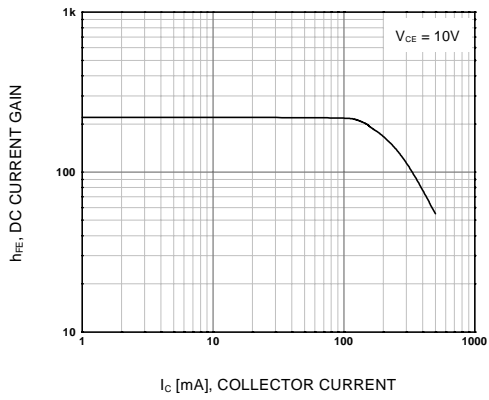


Figure 1. DC current Gain

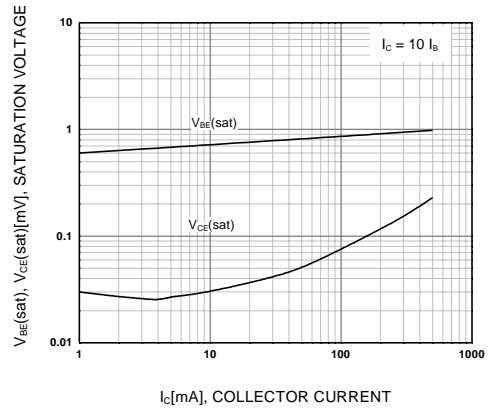


Figure 2. Collector-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

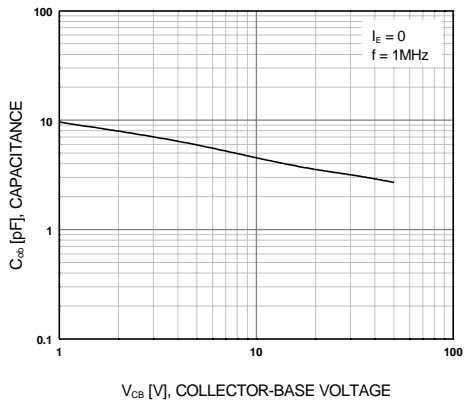


Figure 3. Collector Output Capacitance

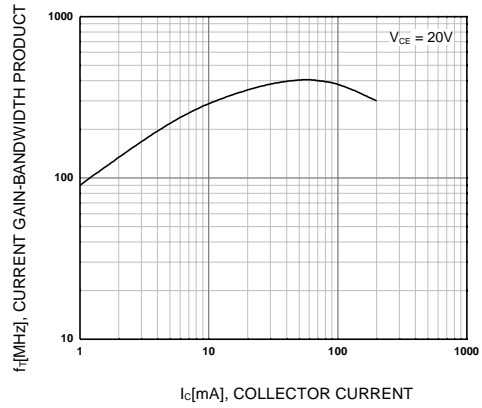


Figure 4. Current Gain Bandwidth Product

# Package Dimensions

## TO-92



Dimensions in Millimeters

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E <sup>2</sup> CMOS™	PowerTrench®	VCX™
FACT™	QFET™	
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