

# **KSP2222A**

## **General Purpose Transistor**

- Collector-Emitter Voltage: V<sub>CEO</sub>= 40V
   Collector Power Dissipation: P<sub>C</sub> (max)=625mW
- Refer KSP2222 for graphs



# **NPN Epitaxial Silicon Transistor**

## **Absolute Maximum Ratings** $T_a$ =25°C unless otherwise noted

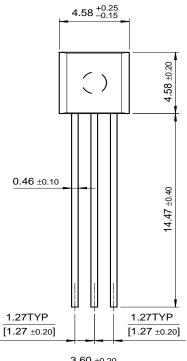
Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	75	V
V <sub>CEO</sub>	Collector-Emitter Voltage	40	V
V <sub>EBO</sub>	Emitter-Base Voltage	6	V
I <sub>C</sub>	Collector Current	600	mA
P <sub>C</sub>	Collector Power Dissipation	625	mW
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>STG</sub>	Storage Temperature	-55 ~ 150	°C

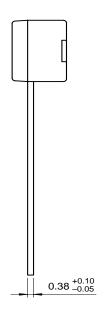
## **Electrical Characteristics** $T_a$ =25°C unless otherwise noted

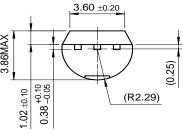
Symbol	Parameter	Test Condition	Min.	Тур.	Max.	Units
BV <sub>CBO</sub>	Collector-Base Breakdown Voltage	$I_{C}=10\mu A, I_{E}=0$	75			V
BV <sub>CEO</sub>	Collector Emitter Breakdown Voltage	I <sub>C</sub> =10mA, I <sub>B</sub> =0	40			V
BV <sub>EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> =10μA, I <sub>C</sub> =0	6			V
I <sub>CBO</sub>	Collector Cut-off Current	V <sub>CB</sub> =60V, I <sub>E</sub> =0			0.01	μΑ
I <sub>EBO</sub>	Emitter Cut-off Current	$V_{EB}=3V$ , $I_{C}=0$			10	nA
h <sub>FE</sub>	DC Current Gain	$\begin{array}{c} I_{C}{=}0.1\text{mA},\ V_{CE}{=}10\text{V} \\ V_{CE}{=}10\text{V},\ I_{C}{=}1\text{mA} \\ V_{CE}{=}10\text{V},\ I_{C}{=}10\text{mA} \\ V_{CE}{=}10\text{V},\ ^{*}I_{C}{=}15\text{omA} \\ V_{CE}{=}10\text{V},\ ^{*}I_{C}{=}50\text{omA} \end{array}$	35 50 75 100 40		300	
V <sub>CE</sub> (sat)	* Collector-Emitter Saturation Voltage	I <sub>C</sub> =150mA, I <sub>B</sub> =15mA I <sub>C</sub> =500mA, I <sub>B</sub> =50mA			0.3 1	V V
V <sub>BE</sub> (sat)	* Base-Emitter Saturation Voltage	I <sub>C</sub> =150mA, I <sub>B</sub> =15mA I <sub>C</sub> =500mA, I <sub>B</sub> =50mA		0.6	1.2 2	V V
f <sub>T</sub>	Current Gain Bandwidth Product	V <sub>CE</sub> =20V, I <sub>C</sub> =20mA f=100MHz	300			MHz
C <sub>ob</sub>	Output Capacitance	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz			8	pF
t <sub>ON</sub>	Turn On Time	V <sub>CC</sub> =30V, I <sub>C</sub> =150mA I <sub>B1</sub> =15mA, V <sub>BE</sub> (off)=0.5V			35	ns
t <sub>OFF</sub>	Turn Off Time	V <sub>CC</sub> =30V, I <sub>C</sub> =150mA I <sub>B1</sub> =I <sub>B2</sub> =15mA			285	ns
NF	Noise Figure	I <sub>C</sub> =100μA, V <sub>CE</sub> =10V R <sub>S</sub> =IKΩ, f=1KHz			4	dB

<sup>\*</sup> Pulse Test: Pulse Width≤300μs, Duty Cycle≤2%
\* Also available as and PN2222A

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