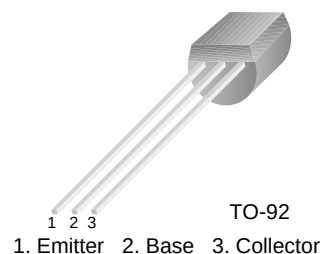


KSP2222A

NPN General Purpose Amplifier

Features

- Collector-Emitter Voltage: $V_{CEO} = 40V$
- Collector Power Dissipation: $P_C (max) = 625mW$
- Available as PN2222A



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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	75	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	6.0	V
I_C	Collector current	600	mA
T_J	Junction Temperature	+150	$^\circ C$
T_{stg}	Storage Temperature	-55 ~ +150	$^\circ C$

- * 1. These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.
 2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

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

Symbol	Parameter	Max	Units
P_C	Collector Power Dissipation, by $R_{\theta JA}$	625	mW
$R_{\theta JC}$	Thermal Resistance, Junction to Case	83.3	$^\circ C/W$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	200	$^\circ C/W$

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

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = 10\mu A, I_E = 0$	75			V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 10mA, I_B = 0$	40			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 10\mu A, I_C = 0$	6.0			V
I_{CBO}	Collector Cutoff Current	$V_{CB} = 60V, I_E = 0$			0.01	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 3.0V, I_C = 0$			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 40		300	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 150mA, I_B = 15mA$ $I_C = 500mA, I_B = 50mA$			0.3 1	V V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 150mA, I_B = 15mA$ $I_C = 500mA, I_B = 50mA$		0.6	1.2 2.0	V V
f_T	Current Gain Bandwidth Product	$I_C = 20mA, V_{CE} = 20V, f = 100MHz$	300			MHz
C_{obo}	Output Capacitance	$V_{CB} = 10V, I_E = 0, f = 1.0MHz$			8	pF
t_{ON}	Turn On Time	$V_{CC} = 30V, I_C = 150mA,$ $I_{B1} = 15mA, V_{BE(off)} = 0.5V$			35	ns
t_{OFF}	Turn Off Time	$V_{CC} = 30V, I_C = 150mA,$ $I_{B1} = I_{B1} = 15mA$			285	ns
NF	Noise Figure	$I_C = 100\mu A, V_{CE} = 10V,$ $R_S = 1K\Omega, f = 1.0KHz$			4	dB

* DC Item are tested by Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$

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