# KSP2222A NPN General Purpose Amplifier

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

## Absolute Maximum Ratings

* $T_a = 25\, ^\circ\text{C}$ unless otherwise noted.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Parameter</th>
<th>Value</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_{CEO}$</td>
<td>Collector-Emitter Voltage</td>
<td>40</td>
<td>V</td>
</tr>
<tr>
<td>$V_{EBO}$</td>
<td>Emitter-Base Voltage</td>
<td>6.0</td>
<td>V</td>
</tr>
<tr>
<td>$I_C$</td>
<td>Collector current</td>
<td>600</td>
<td>mA</td>
</tr>
<tr>
<td>$T_J$</td>
<td>Junction Temperature</td>
<td>+150</td>
<td>°C</td>
</tr>
<tr>
<td>$T_{stg}$</td>
<td>Storage Temperature</td>
<td>-55 to +150</td>
<td>°C</td>
</tr>
</tbody>
</table>

* 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.

## Electrical Characteristics

* $T_a = 25\, ^\circ\text{C}$ unless otherwise noted.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Parameter</th>
<th>Test Condition</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>$f_T$</td>
<td>Current Gain Bandwidth Product</td>
<td>$I_C = 20, \text{mA}, , V_{CE} = 20, \text{V}, , f = 100, \text{MHz}$</td>
<td>0.3</td>
<td>1</td>
<td>2.0</td>
<td>V</td>
</tr>
<tr>
<td>$C_{gs}$</td>
<td>Output Capacitance</td>
<td>$V_{CE} = 10, \text{V}, , I_C = 0, , f = 1.0, \text{MHz}$</td>
<td>8</td>
<td>pF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$t_{ON}$</td>
<td>Turn On Time</td>
<td>$V_{CC} = 30, \text{V}, , I_C = 150, \text{mA}, , I_{BS} = 15, \text{mA}, , V_{BE(on)} = 0.5, \text{V}$</td>
<td>35</td>
<td>ns</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$t_{OFF}$</td>
<td>Turn Off Time</td>
<td>$V_{CC} = 30, \text{V}, , I_C = 150, \text{mA}, , I_{BS} = 15, \text{mA}$</td>
<td>285</td>
<td>ns</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$NF$</td>
<td>Noise Figure</td>
<td>$I_C = 100, \text{mA}, , V_{CE} = 10, \text{V}, , R_O = 1, \text{K}\Omega, , f = 1.0, \text{KHz}$</td>
<td>4</td>
<td>dB</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* DC Item are tested by Pulse Test: Pulse Width/300us, Duty Cycle/2%
Package Dimensions

TO-92

Dimensions in Millimeters
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