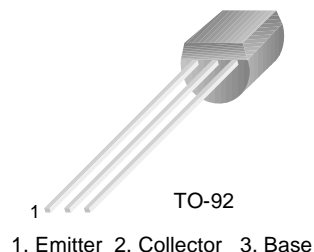


## 2N3702

2N3702

### PNP General Purpose Amplifier

- This device designed for use as general purpose amplifier and switches requiring collector currents to 300mA.
- Sourced from Process 68.
- See PN200 for Characteristics.



### PNP Epitaxial Silicon Transistor

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

Symbol	Parameter	Value	Units
$V_{CEO}$	Collector-Emitter Voltage	-25	V
$V_{CBO}$	Collector-Base Voltage	-40	V
$V_{EBO}$	Emitter-Base Voltage	-5.0	V
$I_C$	Collector Current - Continuous	-500	mA
$T_J, T_{ST}$	Operating and Storage Junction Temperature Range	-55 ~ +150	$^\circ\text{C}$

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

#### NOTES:

- 1) These ratings are based on a maximum junction temperature of 150 degrees C.
- 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

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
<b>Off Characteristics</b>						
$BV_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -10\text{mA}, I_B = 0$	-25			V
$BV_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = -100\mu\text{A}, I_E = 0$	-40			V
$BV_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = -100\mu\text{A}, I_C = 0$	-5.0			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = -20\text{V}, I_E = 0$			-100	nA
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = -3.0\text{V}, I_C = 0$			-100	nA
<b>On Characteristics *</b>						
$h_{FE}$	DC Current Gain	$V_{CE} = -5.0\text{V}, I_C = -50\text{mA}$	60		300	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -50\text{mA}, I_B = -5.0\text{mA}$			-0.25	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$V_{CE} = -5.0\text{V}, I_C = -50\text{mA}$	-0.6		-1.0	V
<b>Small Signal Characteristics</b>						
$C_{ob}$	Current Gain Bandwidth Product	$V_{CB} = -10\text{V}, f = 1.0\text{MHz}$			12	pF
$f_T$	Output Capacitance	$I_E = -50\text{mA}, V_{CE} = -5.0\text{V}$	100			MHz

\* Pulse Test: Pulse  $\leq 300\mu\text{s}$ , Duty Cycle  $\leq 2.0\%$

#### Thermal Characteristics $T_A=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Max.	Units
$P_D$	Total Device Dissipation	625	mW
	Derate above $25^\circ\text{C}$	5.0	mW/ $^\circ\text{C}$
$R_{\theta JC}$	Thermal Resistance, Junction to Case	83.3	$^\circ\text{C}/\text{W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	200	$^\circ\text{C}/\text{W}$

# Package Dimensions

## TO-92



Dimensions in Millimeters

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## PRODUCT STATUS DEFINITIONS

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