

# New Jersey Semi-Conductor Products, Inc.

20 STERN AVE.  
SPRINGFIELD, NEW JERSEY 07081  
U.S.A.

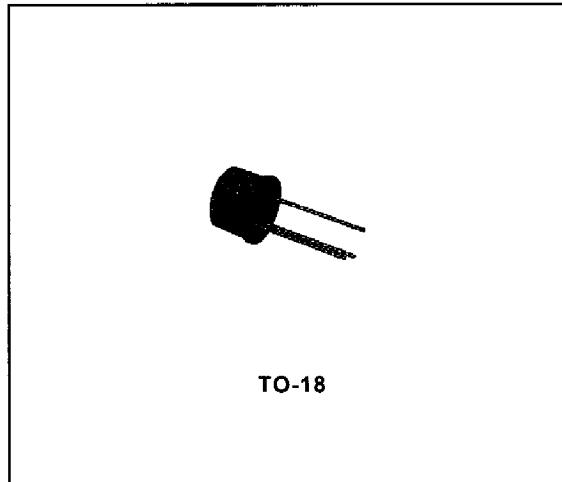
TELEPHONE: (973) 376-2922

**2N720A**

## HIGH VOLTAGE GENERAL PURPOSE

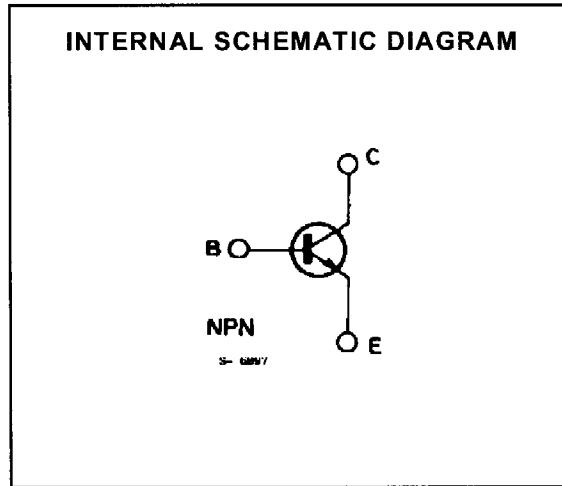
### DESCRIPTION

The 2N720A is a silicon planar epitaxial NPN transistor in Jedec TO-18 metal case. It is suitable for a wide variety of amplifier and switching applications.



TO-18

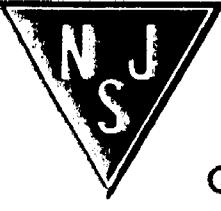
### INTERNAL SCHEMATIC DIAGRAM



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-base Voltage ( $I_E = 0$ )	120	V
$V_{CEO}$	Collector-emitter Voltage ( $I_R = 0$ )	80	V
$V_{EBO}$	Emitter-base Voltage ( $I_C = 0$ )	7	V
$I_C$	Collector Current	500	mA
$P_{tot}$	Total Power Dissipation at $T_{amb} \leq 25^\circ C$ at $T_{case} \leq 25^\circ C$	0.5 1.8	W W
$T_{sig}, T_j$	Storage and Junction Temperature	- 65 to 200	°C

NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.



**Quality Semi-Conductors**

## 2N720A

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### THERMAL DATA

$R_{th\ j\ -case}$	Thermal Resistance Junction-case	Max	97.2	$^{\circ}C/W$
$R_{th\ j\ -amb}$	Thermal Resistance Junction-ambient	Max	350	$^{\circ}C/W$

### ELECTRICAL CHARACTERISTICS( $T_{amb} = 25^{\circ}C$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CBO}$	Collector Cutoff Current ( $I_E = 0$ )	$V_{CB} = 90\text{ V}$			10	nA
$V_{(BR)CBO}$	Collector-base Breakdown Voltage ( $I_E = 0$ )	$I_C = 100\text{ }\mu\text{A}$	120			V
$V_{(BR)CEO}^*$	Collector-emitter Breakdown Voltage ( $I_B = 0$ )	$I_C = 30\text{ mA}$	80			V
$V_{(BR)EBO}$	Emitter-base Breakdown Voltage ( $I_E = 0$ )	$I_E = 100\text{ }\mu\text{A}$	7			V
$I_{EBO}$	Emitter Cutoff Current ( $I_E = 0$ )	$V_{EB} = 5\text{ V}$			10	nA
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = 50\text{ mA}$ $I_C = 150\text{ mA}$	$I_B = 5\text{ mA}$ $I_B = 15\text{ mA}$		1.2 5	V
$V_{BE(sat)}^*$	Base-emitter Saturation Voltage	$I_C = 50\text{ mA}$ $I_C = 150\text{ mA}$	$I_B = 5\text{ mA}$ $I_B = 15\text{ mA}$		0.9 1.3	V
$h_{FE}^*$	DC Current Gain	$I_C = 100\text{ }\mu\text{A}$ $I_C = 10\text{ mA}$ $I_C = 150\text{ mA}$	$V_{CE} = 10\text{ V}$ $V_{CE} = 10\text{ V}$ $V_{CE} = 10\text{ V}$	20 35 40	120	-
$h_{fe}$	High Frequency Current Gain	$I_C = 50\text{ mA}$ $f = 20\text{ MHz}$	$V_{CE} = 10\text{ V}$	2.5		-
$C_{CBO}$	Collector-base Capacitance	$I_E = 0$ $f = 1\text{ MHz}$	$V_{CB} = 10\text{ V}$		15	pF
$C_{EBO}$	Emitter-base Capacitance	$I_C = 0$ $f = 1\text{ MHz}$	$V_{EB} = 0.5\text{ V}$		85	pF

\* Pulsed : pulse duration = 300  $\mu\text{s}$ , duty cycle = 1 %.