



**PRODUCT NAME** : 2N4923 NPN General Purpose Transistor (Pack of 5 )

**PRICE** : Rs 20.00

**SKU** : RM2071



## DESCRIPTION

WITH THE PRODUCT BY PERFORMING WORK ABOVE Copyrights by Robomart.com



**ON Semiconductor®**

## Medium-Power Plastic NPN Silicon Transistors

... designed for driver circuits, switching, and amplifier applications. These high-performance plastic devices feature:

- Low Saturation Voltage —  
 $V_{CE(sat)} = 0.6 \text{ Vdc (Max) @ } I_C = 1.0 \text{ Amp}$
- Excellent Power Dissipation Due to Thermopad Construction —  
 $P_D = 30 \text{ W @ } T_C = 25^\circ\text{C}$
- Excellent Safe Operating Area
- Gain Specified to  $I_C = 1.0 \text{ Amp}$
- Complement to PNP 2N4918, 2N4919, 2N4920

### \*MAXIMUM RATINGS

Rating	Symbol	2N4921	2N4922	2N4923	Unit
Collector–Emitter Voltage	$V_{CEO}$	40	60	80	Vdc
Collector–Base Voltage	$V_{CB}$	40	60	80	Vdc
Emitter–Base Voltage	$V_{EB}$	5.0			Vdc
Collector Current — Continuous (1)	$I_C$	1.0 3.0			Adc
Base Current — Continuous	$I_B$	1.0			Adc
Total Power Dissipation @ $T_C = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	30 0.24			Watts W/ $^\circ\text{C}$
Operating & Storage Junction Temperature Range	$T_J, T_{stg}$	–65 to +150			$^\circ\text{C}$

### THERMAL CHARACTERISTICS (2)

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$\theta_{JC}$	4.16	$^\circ\text{C/W}$

(1) The 1.0 Amp maximum  $I_C$  value is based upon JEDEC current gain requirements. The 3.0 Amp maximum value is based upon actual current handling capability of the device (see Figures 5 and 6).

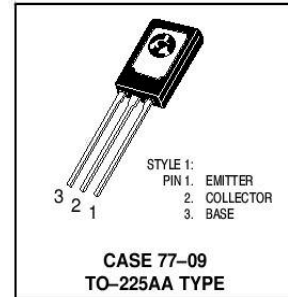
(2) Recommend use of thermal compound for lowest thermal resistance.

\*Indicates JEDEC Registered Data.

**2N4921  
thru  
2N4923 \***

\*ON Semiconductor Preferred Device

**1 AMPERE  
GENERAL-PURPOSE  
POWER TRANSISTORS  
40–80 VOLTS  
30 WATTS**



Preferred devices are ON Semiconductor recommended choices for future use and best overall value.

**2N4921 thru 2N4923**

**ELECTRICAL CHARACTERISTICS** ( $T_C = 25^\circ\text{C}$  unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
<b>OFF CHARACTERISTICS</b>				
Collector–Emitter Sustaining Voltage (3) ( $I_C = 0.1 \text{ Adc}$ , $I_B = 0$ )	$V_{CEO(sus)}$	40 60 80	— — —	Vdc
Collector Cutoff Current ( $V_{CE} = 20 \text{ Vdc}$ , $I_B = 0$ ) ( $V_{CE} = 30 \text{ Vdc}$ , $I_B = 0$ ) ( $V_{CE} = 40 \text{ Vdc}$ , $I_B = 0$ )	$I_{CEO}$	— — —	0.5 0.5 0.5	mAdc
Collector Cutoff Current ( $V_{CE} = \text{Rated } V_{CEO}$ , $V_{EB(off)} = 1.5 \text{ Vdc}$ ) ( $V_{CE} = \text{Rated } V_{CEO}$ , $V_{EB(off)} = 1.5 \text{ Vdc}$ , $T_C = 125^\circ\text{C}$ )	$I_{CEX}$	— —	0.1 0.5	mAdc
Collector Cutoff Current ( $V_{CB} = \text{Rated } V_{CB}$ , $I_E = 0$ )	$I_{CBO}$	—	0.1	mAdc
Emitter Cutoff Current ( $V_{EB} = 5.0 \text{ Vdc}$ , $I_C = 0$ )	$I_{EBO}$	—	1.0	mAdc
<b>ON CHARACTERISTICS</b>				
DC Current Gain (3) ( $I_C = 50 \text{ mAdc}$ , $V_{CE} = 1.0 \text{ Vdc}$ ) ( $I_C = 500 \text{ mAdc}$ , $V_{CE} = 1.0 \text{ Vdc}$ ) ( $I_C = 1.0 \text{ Adc}$ , $V_{CE} = 1.0 \text{ Vdc}$ )	$h_{FE}$	40 30 10	— 150 —	—
Collector–Emitter Saturation Voltage (3) ( $I_C = 1.0 \text{ Adc}$ , $I_B = 0.1 \text{ Adc}$ )	$V_{CE(sat)}$	—	0.6	Vdc
Base–Emitter Saturation Voltage (3) ( $I_C = 1.0 \text{ Adc}$ , $I_B = 0.1 \text{ Adc}$ )	$V_{BE(sat)}$	—	1.3	Vdc
Base–Emitter On Voltage (3) ( $I_C = 1.0 \text{ Adc}$ , $V_{CE} = 1.0 \text{ Vdc}$ )	$V_{BE(on)}$	—	1.3	Vdc
<b>SMALL–SIGNAL CHARACTERISTICS</b>				
Current–Gain — Bandwidth Product ( $I_C = 250 \text{ mAdc}$ , $V_{CE} = 10 \text{ Vdc}$ , $f = 1.0 \text{ MHz}$ )	$f_T$	3.0	—	MHz
Output Capacitance ( $V_{CB} = 10 \text{ Vdc}$ , $I_E = 0$ , $f = 100 \text{ kHz}$ )	$C_{ob}$	—	100	pF
Small–Signal Current Gain ( $I_C = 250 \text{ mAdc}$ , $V_{CE} = 10 \text{ Vdc}$ , $f = 1.0 \text{ kHz}$ )	$h_{fe}$	25	—	—

(3) Pulse Test:  $PW \approx 300 \mu\text{s}$ , Duty Cycle  $\approx 2.0\%$ .  
 \*Indicates JEDEC Registered Data.

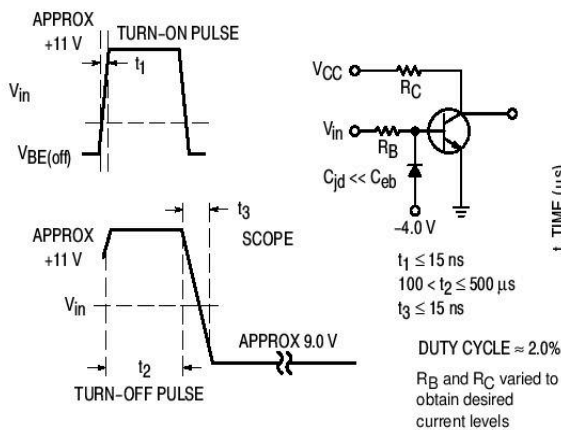


Figure 2. Switching Time Equivalent Circuit

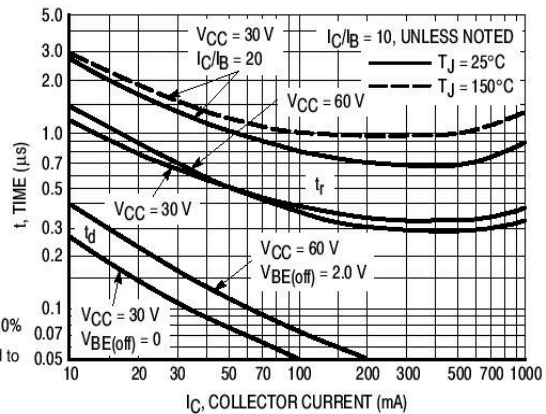


Figure 3. Turn–On Time

