



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

PRICE : Rs 20.00

SKU : RM2071



DESCRIPTION

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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°C	P_D	30 0.24			Watts W/°C
Operating & Storage Junction Temperature Range	T_J, T_{stg}	–65 to +150			°C

THERMAL CHARACTERISTICS (2)

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	θ_{JC}	4.16	°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).

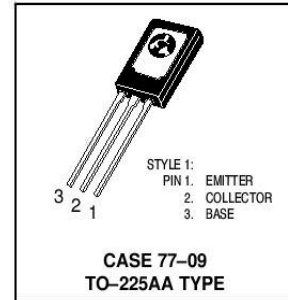
(2) Recommend use of thermal compound for lowest thermal resistance.

*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
OFF CHARACTERISTICS				
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
ON CHARACTERISTICS				
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
SMALL–SIGNAL CHARACTERISTICS				
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 μs , Duty Cycle \approx 2.0%.
 *Indicates JEDEC Registered Data.

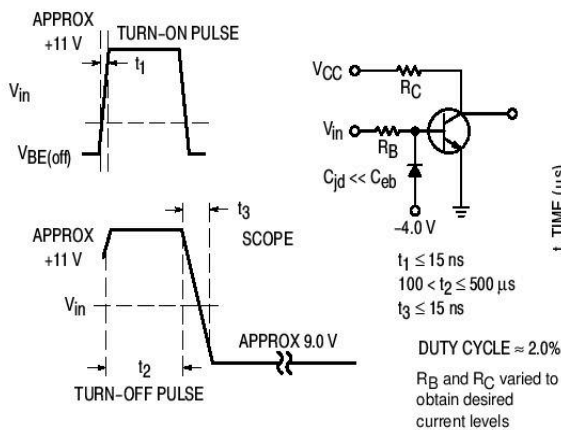


Figure 2. Switching Time Equivalent Circuit

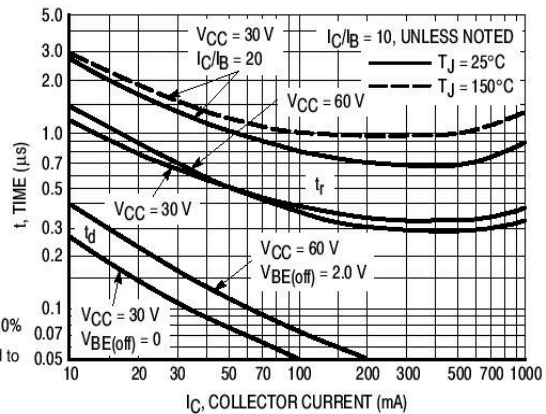


Figure 3. Turn–On Time

