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Manufacturers of World Class Discrete Semiconductors

2N918 TO-72 CASE
PN918 TO-92 CASE (EBC)

NPN SILICON RF TRANSISTORS

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N/PN918 types are NPN silicon RF transistors, manufactured by the epitaxial planar process and designed for high frequency amplifier and oscillator applications.

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise noted)

	<u>SYMBOL</u>	<u>2N918</u>	<u>PN918</u>	<u>UNIT</u>
Collector-Base Voltage	V_{CB0}	30	30	V
Collector-Emitter Voltage	V_{CE0}	15	15	V
Emitter-Base Voltage	V_{EB0}	3.0	3.0	V
Collector Current	I_C	50	50	mA
Power Dissipation	P_D	200	625	mW
Power Dissipation ($T_C=25^\circ\text{C}$)	P_D	300	1000	mW
Operating and Storage				
Junction Temperature	T_J, T_{STG}	-65 to +200	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	87.5	2.0	$^\circ\text{C}/\text{W}$
Thermal Resistance	θ_{JC}	58.3	12.5	$^\circ\text{C}/\text{W}$

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

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>MAX</u>	<u>UNIT</u>
I_{CBO}	$V_{CB}=15\text{V}$		10	nA
I_{CBO}	$V_{CB}=15\text{V}, T_A=150^\circ\text{C}$ (2N918 only)		1.0	μA
BV_{CB0}	$I_C=1.0\mu\text{A}$	30		V
BV_{CE0}	$I_C=3.0\text{mA}$	15		V
BV_{EB0}	$I_E=10\mu\text{A}$	3.0		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.4	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		1.0	V
h_{FE}	$V_{CE}=1.0\text{V}, I_C=3.0\text{mA}$	20		
f_T	$V_{CE}=10\text{V}, I_C=4.0\text{mA}, f=100\text{MHz}$	600		MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		1.7	pF
C_{ob}	$V_{EB}=0, I_E=0, f=1.0\text{MHz}$		3.0	pF
C_{ib}	$V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$		2.0	pF
P_o	$V_{CB}=15\text{V}, I_C=8.0\text{mA}, f=500\text{MHz}$	30		mW
G_{pe}	$V_{CB}=12\text{V}, I_C=6.0\text{mA}, f=200\text{MHz}$	15		dB
η	$V_{CB}=15\text{V}, I_C=8.0\text{mA}, f=500\text{MHz}$	25		%
NF	$V_{CE}=6.0\text{V}, I_C=1.0\text{mA}, R_G=400\Omega, f=60\text{MHz}$		6.0	dB