

# New Jersey Semi-Conductor Products, Inc.

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

TELEPHONE: (973) 376-2922  
(212) 227-6005  
FAX: (973) 376-8960

2N5814 2N5816 2N5818 NPN  
2N5815 2N5817 2N5819 PNP

## COMPLEMENTARY SILICON TRANSISTORS

TO-92-18R CASE

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

	SYMBOL		UNIT
Collector Base Voltage	$V_{CB0}$	50	V
Collector Emitter Voltage	$V_{CES}$	50	V
Collector Emitter Voltage	$V_{CEO}$	40	V
Emitter Base Voltage	$V_{EBO}$	5.0	V
Collector Current	$I_C$	750	mA
Collector Current (PEAK)	$I_{CM}$	1000	mA
Power Dissipation	$P_D$	625	mW
Power Dissipation ( $T_C=25^\circ\text{C}$ )	$P_D$	1500	mW
Operating and Storage Junction Temperature	$T_J, T_{stg}$	-65 TO +150	$^\circ\text{C}$

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
$I_{CBO}$	$V_{CB}=25\text{V}$		100	nA
$I_{CBO}$	$V_{CB}=25\text{V}, T_A=100^\circ\text{C}$		15	$\mu\text{A}$
$I_{EBO}$	$V_{EB}=5.0\text{V}$		10	$\mu\text{A}$
$BV_{CES}$	$I_C=10\mu\text{A}$	50		V
$BV_{CEO}$	$I_C=10\text{mA}$	40		V
$BV_{EBO}$	$I_E=10\mu\text{A}$	5.0		V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		0.75	V
$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		1.2	V
$V_{BE(ON)}$	$V_{CE}=2.0\text{V}, I_C=500\text{mA}$	0.60	1.1	V
$h_{FE}$	$V_{CE}=2.0\text{V}, I_C=2.0\text{mA}$ (2N5814, 2N5815)	60	120	
$h_{FE}$	$V_{CE}=2.0\text{V}, I_C=2.0\text{mA}$ (2N5816, 2N5817)	100	200	
$h_{FE}$	$V_{CE}=2.0\text{V}, I_C=2.0\text{mA}$ (2N5818, 2N5819)	150	300	
$h_{FE}$	$V_{CE}=2.0\text{V}, I_C=500\text{mA}$ (2N5814, 2N5815)	20	-	
$h_{FE}$	$V_{CE}=2.0\text{V}, I_C=500\text{mA}$ (2N5816, 2N5817)	25	-	
$h_{FE}$	$V_{CE}=2.0\text{V}, I_C=500\text{mA}$ (2N5818, 2N5819)	25	-	
$f_T$	$V_{CE}=2.0\text{V}, I_C=50\text{mA}, f=20\text{MHz}$ (2N5814, 2N5815)	100		MHz
$f_T$	$V_{CE}=2.0\text{V}, I_C=50\text{mA}, f=20\text{MHz}$ (2N5816, 2N5817)	120		MHz
$f_T$	$V_{CE}=2.0\text{V}, I_C=50\text{mA}, f=20\text{MHz}$ (2N5818, 2N5819)	135		MHz
$C_{ob}$	$V_{CB}=10\text{V}, f=1.0\text{MHz}$		15	pF
$C_{ib}$	$V_{EB}=0.5\text{V}, f=1.0\text{MHz}$		55	pF

NJ Semi-Conductors reserves the right to change test conditions, parameters 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**

