

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

2N5820 2N5822 NPN
2N5821 2N5823 PNP

COMPLEMENTARY SILICON TRANSISTORS

TO-92-18R CASE (CBE)

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

	SYMBOL		UNIT
Collector-Base Voltage	V_{CB0}	70	V
Collector-Emitter Voltage	V_{CES}	70	V
Collector-Emitter Voltage	V_{CEO}	60	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	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	200	$^\circ\text{C}/\text{mW}$
Thermal Resistance	θ_{JC}	83.3	$^\circ\text{C}/\text{mW}$

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

SYMBOL	TEST CONDITIONS	2N5820		2N5822		UNIT
		2N5821		2N5823		
		MIN	MAX	MIN	MAX	
I_{CB0}	$V_{CB}=25\text{V}$		100		100	nA
I_{CBO}	$V_{CB}=25\text{V}, T_A=100^\circ\text{C}$		15		15	μA
I_{EBO}	$V_{EB}=5.0\text{V}$		10		10	μA
BV_{CES}	$I_C=10\mu\text{A}$	70		70		V
BV_{CEO}	$I_C=10\text{mA}$	60		60		V
BV_{EBO}	$I_E=10\mu\text{A}$	5.0		5.0		V
$V_{CE}(\text{SAT})$	$I_C=500\text{mA}, I_B=50\text{mA}$		0.75		0.75	V
$V_{BE}(\text{SAT})$	$I_C=500\text{mA}, I_B=50\text{mA}$		1.2		1.2	V
$V_{BE}(\text{ON})$	$V_{CB}=2.0\text{V}, I_C=500\text{mA}$	0.60	1.1	0.60	1.1	V
h_{FE}	$V_{CE}=2.0\text{V}, I_C=2.0\text{mA}$	60	120	100	200	
h_{FE}	$V_{CE}=2.0\text{V}, I_C=500\text{mA}$	20	-	25	-	
f_T	$V_{CE}=2.0\text{V}, I_C=50\text{mA}, f=20\text{MHz}$	100	-	120	-	MHz
C_{ob}	$V_{CB}=10\text{V}, I_C=0, f=1.0\text{MHz}$		15		15	pF
C_{ib}	$V_{EB}=0.5\text{V}, I_E=0, f=1.0\text{MHz}$		55		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

