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

2N5022
2N5023

PNP SILICON TRANSISTOR

JEDEC TO-39 CASE

MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

	SYMBOL	2N5022	2N5023	UNIT
Collector-Base Voltage	V_{CBO}	50	30	V
Collector-Emitter Voltage	V_{CEO}	50	30	V
Emitter-Base Voltage	V_{EBO}	5.0	5.0	V
Collector-Current-continuous	I_C	1.0	1.0	A
Power Dissipation, T_A=25°C	P_D	1.0	1.0	W
Power Dissipation, T_C=25°C	P_D	4.0	4.0	W
Operating and Storage Junction Temperature	T_J, T_{STG}	-65 TO +200		°C
Thermal Resistance	Θ_{JC}	43.8		°C/W
Thermal Resistance	Θ_{JA}	175		°C/W

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

		2N5022		2N5023		
SYMBOL	TEST CONDITIONS	MIN	MAX	MIN	MAX	UNIT
I_{CES}	V_{CE}=30V		100		-	nA
I_{CES}	V_{CE}=20V		-		100	nA
I_{CES}	V_{CE}=30V, T_A=100°C		15		-	µA
I_{CES}	V_{CE}=20V, T_A=100°C		-		15	µA
BV_{CBO}	I_C=100µA	50		30		V
BV_{CES}	I_C=100µA	50		30		V
BV_{CEO}	I_C=10mA	50		30		V
BV_{EBO}	I_E=100µA	5		5		V
$V_{CE(SAT)}$	I_C=100mA, I_B=10mA		0.20		0.17	V
$V_{CE(SAT)}$	I_C=500mA, I_B=50mA		0.40		0.35	V
$V_{CE(SAT)}$	I_C=1.0A, I_B=100mA		0.80		0.70	V
$V_{BE(SAT)}$	I_C=100mA, I_B=10mA		1.0		1.0	V
$V_{BE(SAT)}$	I_C=500mA, I_B=50mA	0.8	1.4	0.8	1.4	V
$V_{BE(SAT)}$	I_C=1.0A, I_B=100mA		1.75		1.75	V
h_{FE}	V_{CE}=1.0V, I_C=100mA	15		30		
h_{FE}	V_{CE}=1.0V, I_C=50mA	25	100	40	100	
h_{FE}	V_{CE}=5.0V, I_C=1.0A	25		40		
h_{FE}	V_{CE}=1.0V, I_C=500mA, T_A=-55°C	10		20		
f_T	V_{CE}=10V, I_C=50mA, f=100MHz	170		200		MHz
C_{ob}	V_{BE}=10V, f=100kHz		25		25	pF
C_{ib}	V_{BE}=0.5V, f=100kHz		100		100	pF
t_{on}	V_{CE}=-30V, I_C=500mA, I_B=50mA		40		40	ns
t_{off}	V_{CE}=30V, I_C=500mA, I_{B1}=I_{B2}=50mA		90		90	ns