

# New Jersey Semi-Conductor Products, Inc.

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2N5056  
2N5057

## PNP SILICON SWITCHING TRANSISTOR

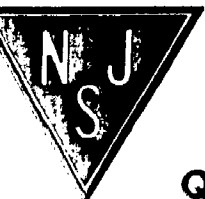
JEDEC TO-18 CASE\*\*

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

	SYMBOL		UNIT
Collector-Base Voltage	$V_{CB0}$	15	V
Collector-Emitter Voltage	$V_{CE0}$	15	V
Emitter-Base Voltage	$V_{EB0}$	4.5	V
Collector Current	$I_C$	200	mA
Power Dissipation	$P_D$	0.5	W
Power Dissipation ( $T_C=25^{\circ}\text{C}$ )	$P_D$	1.2	W
Operating and Storage Junction Temperature	$T_J, T_{stg}$	-65 TO +200	$^{\circ}\text{C}$

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

SYMBOL	TEST CONDITIONS	2N5056		2N5057		UNIT
		MIN	MAX	MIN	MAX	
$I_{CES}$	$V_{CE}=10\text{V}$		50		50	nA
$I_{CES}$	$V_{CE}=10\text{V}, T_A=125^{\circ}\text{C}$		10		10	$\mu\text{A}$
$BV_{CB0}$	$I_C=10\mu\text{A}$	15		15		V
$BV_{CES}$	$I_C=10\mu\text{A}$	15		15		V
$BV_{CE0}$	$I_C=10\text{mA}$	15		15		V
$BV_{EB0}$	$I_E=100\mu\text{A}$	4.5		4.5		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.13		0.13	V
$V_{CE(SAT)}$	$I_C=30\text{mA}, I_B=3.0\text{mA}$		0.19		0.19	V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=10\text{mA}$		0.45		0.45	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.92		0.92	V
$V_{BE(SAT)}$	$I_C=30\text{mA}, I_B=3.0\text{mA}$		1.15		1.15	V
$V_{BE(SAT)}$	$I_C=100\text{mA}, I_B=10\text{mA}$		1.5		1.5	V
$h_{FE}$	$V_{CE}=0.5\text{V}, I_C=1.0\text{mA}$	12		20		
$h_{FE}$	$V_{CE}=0.3\text{V}, I_C=10\text{mA}$	20		30		
$h_{FE}$	$V_{CE}=0.5\text{V}, I_C=30\text{mA}$	30	100	40	100	
$h_{FE}$	$V_{CE}=1.0\text{V}, I_C=100\text{mA}$	20		30		
$f_T$	$V_{CE}=10\text{V}, I_C=30\text{mA}, f=100\text{MHz}$	600		800		MHz
$C_{ob}$	$V_{CB}=5.0\text{V}, I_E=0$		4.5		4.5	pF
$C_{ib}$	$V_{EB}=0.5\text{V}, I_C=0$		6.0		6.0	pF
$t_{on}$	$V_{CC}=3.0\text{V}, I_C=30\text{mA}, I_{B1}=3.0\text{mA}$		20		20	ns
$t_{off}$	$V_{CC}=3.0\text{V}, I_C=30\text{mA}, I_{B1}=I_{B2}=3.0\text{mA}$		35		35	ns
$t_s$	$V_{CC}=3.0\text{V}, I_C=10\text{mA}, I_{B1}=I_{B2}=10\text{mA}$		30		30	ns



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.

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