

*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

## Silicon PNP Power Transistor

## 2SA1073

### DESCRIPTION

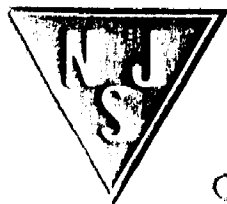
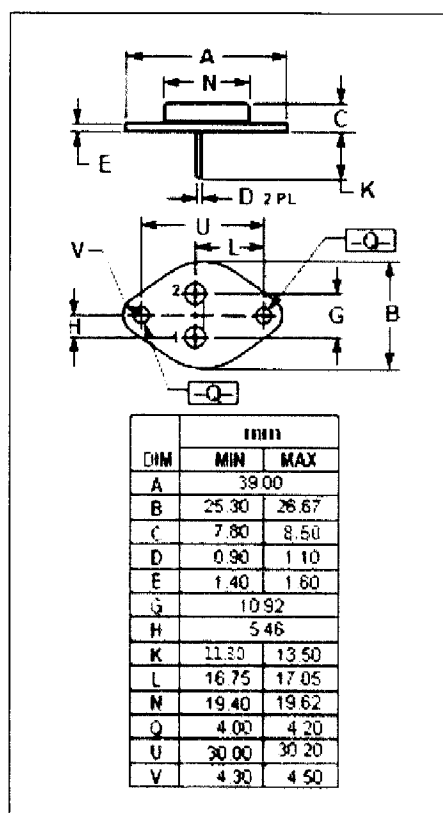
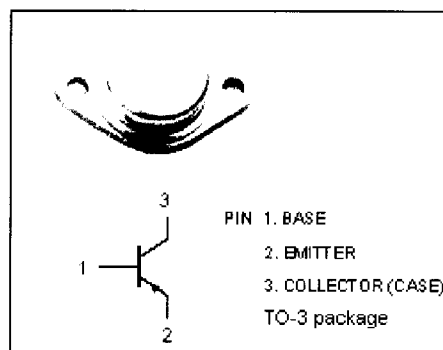
- High Collector-Emitter Breakdown Voltage-  
 $V_{(BR)CEO} = -160V(\text{Min})$
- Fast Switching Speed
- Wide Area of Safe Operation
- Complement to Type 2SC2523

### APPLICATIONS

- High frequency power amplifier
- Audio power amplifiers
- Switching regulators
- DC-DC converters

### ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ )

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	-160	V
$V_{CEO}$	Collector-Emitter Voltage	-160	V
$V_{EBO}$	Emitter-Base Voltage	-7	V
$I_C$	Collector Current-Continuous	-12	A
$P_C$	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	120	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$



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

## Silicon PNP Power Transistor

2SA1073

## ELECTRICAL CHARACTERISTICS

 $T_C=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -1\text{mA}; R_{BE} = \infty$	-160			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = -50\mu\text{A}; I_E = 0$	-160			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = -50\mu\text{A}; I_C = 0$	-7			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -5\text{A}; I_B = -0.5\text{A}$			-1.8	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -5\text{A}; V_{CE} = -5\text{V}$			-1.7	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB} = -160\text{V}; I_E = 0$			-50	$\mu\text{A}$
$I_{CEO}$	Collector Cutoff Current	$V_{CE} = -160\text{V}; R_{BE} = \infty$			-1	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB} = -7\text{V}; I_C = 0$			-50	$\mu\text{A}$
$h_{FE-1}$	DC Current Gain	$I_C = -1\text{A}; V_{CE} = -5\text{V}$	60		200	
$h_{FE-2}$	DC Current Gain	$I_C = -7\text{A}; V_{CE} = -5\text{V}$	40			
$C_{OB}$	Output Capacitance	$I_E = 0; V_{CB} = -10\text{V}; f = 1.0\text{MHz}$		300		pF
$f_T$	Current-Gain—Bandwidth Product	$I_C = -1\text{A}; V_{CE} = -10\text{V}; f = 10\text{MHz}$		60		MHz

## Switching Times

$t_r$	Rise Time	$I_C = -7.5\text{A}; I_{B1} = -I_{B2} = -0.75\text{A}; R_L = 4\Omega$		0.15		$\mu\text{s}$
$t_{stg}$	Storage Time			0.5		$\mu\text{s}$
$t_f$	Fall Time			0.11		$\mu\text{s}$