

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 NPN Power Transistor

2SC4706

DESCRIPTION

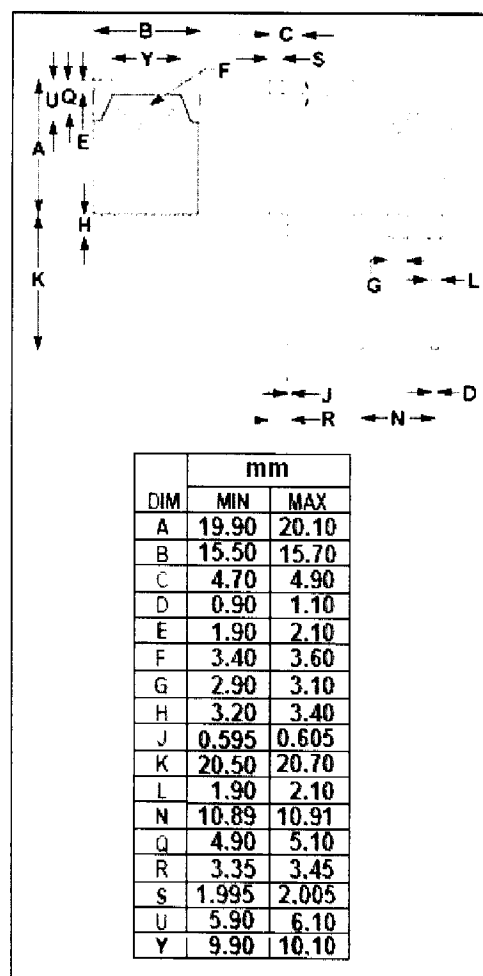
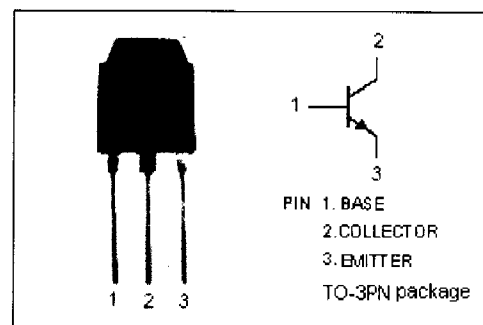
- High Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 600V(\text{Min})$
- High Switching Speed
- High Reliability

APPLICATIONS

- Designed for switching regulator and general purpose applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	900	V
V_{CEO}	Collector-Emitter Voltage	600	V
V_{EBO}	Emitter-Base voltage	7	V
I_C	Collector Current-Continuous	14	A
I_{CM}	Collector Current-Peak	28	A
I_B	Base Current-Continuous	7	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	130	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



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 NPN Power Transistor**2SC4706****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	$I_C = 10\text{mA}; I_B = 0$	600			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 7\text{A}; I_B = 1.4\text{A}$			0.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 7\text{A}; I_B = 1.4\text{A}$			1.2	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = 800\text{V}; I_E = 0$			0.1	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 7\text{V}; I_C = 0$			0.1	mA
h_{FE}	DC Current Gain	$I_C = 7\text{A}; V_{CE} = 4\text{V}$	10		25	
C_{OB}	Output Capacitance	$I_E = 0; V_{CB} = 10\text{V}; f_{test} = 1.0\text{MHz}$		160		pF
f_T	Current-Gain—Bandwidth Product	$I_E = -1.5\text{A}; V_{CE} = 12\text{V}$		6		MHz

Switching Times

t_{on}	Turn-on Time	$I_C = 7\text{A}; I_{B1} = 1.05\text{A}; I_{B2} = -3.5\text{A}$ $R_L = 35.7\ \Omega; V_{CC} = 250\text{V}$			1.0	μs
t_{stg}	Storage Time				5.0	μs
t_f	Fall Time				0.7	μs