

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

2SC2516

DESCRIPTION

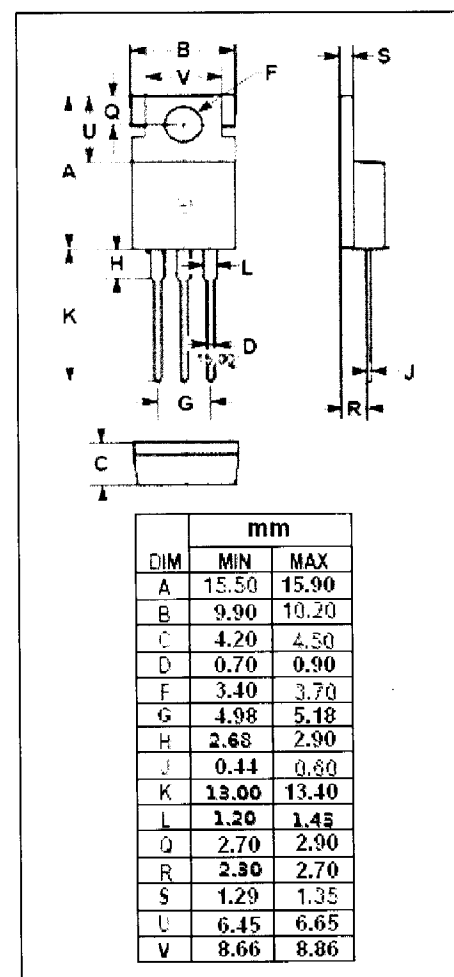
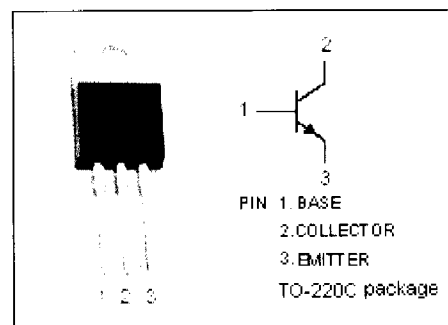
- Low Collector Saturation Voltage

APPLICATIONS

- Designed for high-speed switching, and is ideal for use as a driver in devices such as switching regulators, DC/DC converters, and high frequency power amplifiers.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CB0}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	12	V
I_C	Collector Current-Continuous	5	A
I_{CM}	Collector Current-Peak	10	A
I_B	Base Current-Continuous	2.5	A
P_C	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	1.5	W
	Total Power Dissipation @ $T_c=25^\circ\text{C}$	30	
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

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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=50\text{mA}; I_B=0$	60		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=3.0\text{A}; I_B=0.3\text{A}$		0.6	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=3.0\text{A}; I_B=0.3\text{A}$		1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=60\text{V}; I_E=0$		10	μA
I_{CER}	Collector Cutoff Current	$V_{CE}=60\text{V}; R_{BE}=51\Omega; T_a=125^\circ\text{C}$		1.0	mA
I_{CEX}	Collector Cutoff Current	$V_{CE}=60\text{V}; V_{BE(off)}=-1.5\text{V}$ $V_{CE}=60\text{V}; V_{BE(off)}=-1.5\text{V}; T_a=125^\circ\text{C}$		10 1.0	μA mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$		10	μA
h_{FE-1}	DC Current Gain	$I_C=0.3\text{A}; V_{CE}=5\text{V}$	40		
h_{FE-2}	DC Current Gain	$I_C=3.0\text{A}; V_{CE}=5\text{V}$	40	200	

Switching times

t_{on}	Turn-on Time	$I_C=3.0\text{A}, R_L=17\Omega,$ $I_{B1}=-I_{B2}=0.3\text{A}, V_{CC}\approx 50\text{V}$		0.5	μs
t_{stg}	Storage Time			3.0	μs
t_f	Fall Time			0.5	μs

◆ h_{FE-2} Classifications

M	L	K
40-80	60-120	100-200