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## Silicon NPN Power Transistor

## 2SC2517

### DESCRIPTION

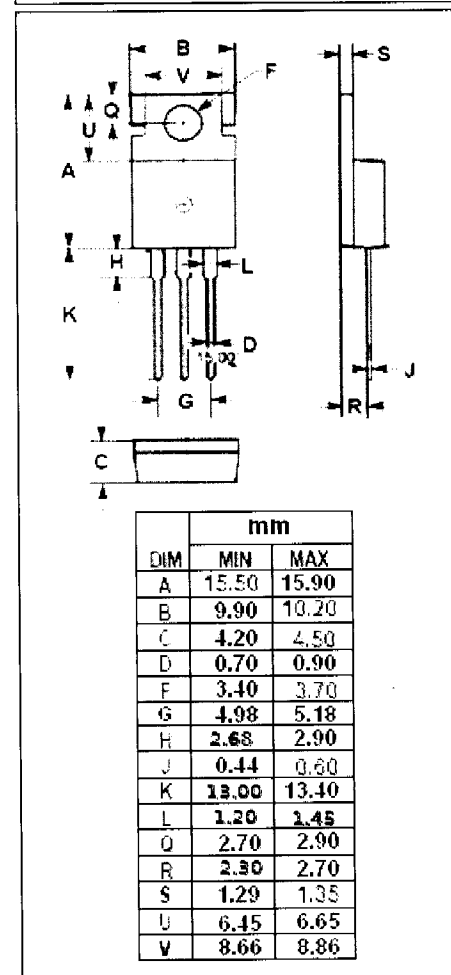
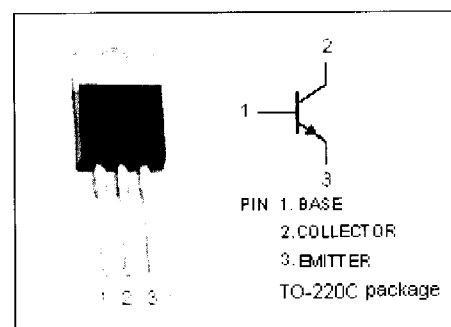
- Low Collector Saturation Voltage
- Fast Switching Speed

### 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
$V_{CBO}$	Collector-Base Voltage	150	V
$V_{CEO}$	Collector-Emitter Voltage	100	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
$P_C$	Total Power Dissipation @ $T_C=25^\circ\text{C}$	30	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**

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## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=50\text{mA}; I_B=0$	100		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	$V_{CB}=100\text{V}; I_E=0$		10	$\mu\text{A}$
$I_{CER}$	Collector Cutoff Current	$V_{CE}=100\text{V}; R_{BE}=51\Omega; T_a=125^\circ\text{C}$		1.0	mA
$I_{CEX}$	Collector Cutoff Current	$V_{CE}=100\text{V}; V_{BE(off)}=-1.5\text{V}$ $V_{CE}=100\text{V}; V_{BE(off)}=-1.5\text{V}; T_a=125^\circ\text{C}$		10 1.0	$\mu\text{A}$ mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=10\text{V}; I_C=0$		10	$\mu\text{A}$
$h_{FE-1}$	DC Current Gain	$I_C=0.2\text{A}; V_{CE}=5\text{V}$	40		
$h_{FE-2}$	DC Current Gain	$I_C=2\text{A}; V_{CE}=5\text{V}$	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	$\mu\text{s}$
$t_{stg}$	Storage Time			2.5	$\mu\text{s}$
$t_f$	Fall Time			0.5	$\mu\text{s}$

◆  $h_{FE-2}$  Classifications

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