

## isc Silicon NPN Power Transistor

2SC2517

## DESCRIPTION

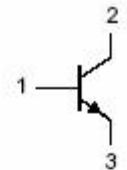
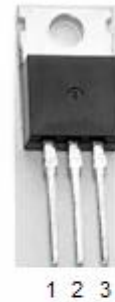
- Low Collector Saturation Voltage
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

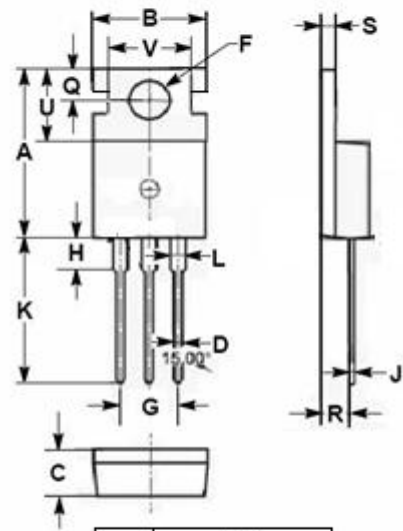
- Designed for high-speed switching, and is ideal for use as a driver in devices such as switching regulators, DC/DC converters, and high frequency power amplifiers.

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	$^\circ\text{C}$



PIN 1. BASE  
2. COLLECTOR  
3. EMITTER  
TO-220C package



DIM	mm	
	MIN	MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

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## ELECTRICAL CHARACTERISTICS

T<sub>c</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 50mA; I <sub>B</sub> = 0	100		V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 3.0A; I <sub>B</sub> = 0.3A		0.6	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 3.0A; I <sub>B</sub> = 0.3A		1.5	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 100V; I <sub>E</sub> = 0		10	μ A
I <sub>CER</sub>	Collector Cutoff Current	V <sub>CE</sub> = 100V; R <sub>BE</sub> = 51 Ω, T <sub>a</sub> =125°C		1.0	mA
I <sub>CEx</sub>	Collector Cutoff Current	V <sub>CE</sub> = 100V; V <sub>BE(off)</sub> = -1.5V V <sub>CE</sub> = 100V; V <sub>BE(off)</sub> = -1.5V, T <sub>a</sub> =125°C		10 1.0	μ A mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 10V; I <sub>C</sub> =0		10	μ A
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 0.2A; V <sub>CE</sub> = 5V	40		
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 2A; V <sub>CE</sub> = 5V	40	200	

## Switching times

t <sub>on</sub>	Turn-on Time	I <sub>C</sub> = 3.0A, R <sub>L</sub> = 17 Ω, I <sub>B1</sub> = -I <sub>B2</sub> = 0.3A, V <sub>CC</sub> ≈ 50V		0.5	μ s
t <sub>stg</sub>	Storage Time			2.5	μ s
t <sub>f</sub>	Fall Time			0.5	μ s

◆ h<sub>FE-2</sub> Classifications

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

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