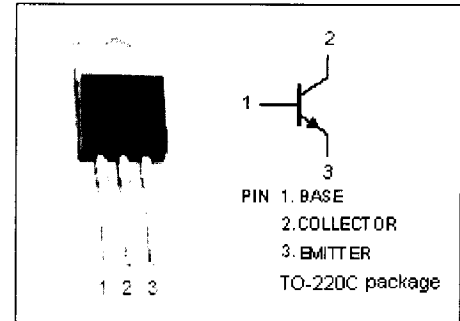


**Silicon NPN Power Transistor**

**2SC5027**

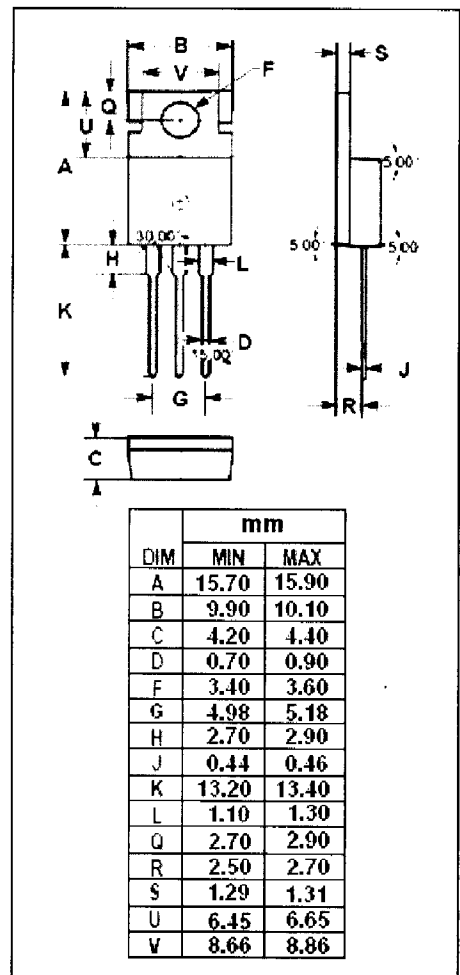
**DESCRIPTION**

- Collector-Emitter Breakdown Voltage-  
 :  $V_{(BR)CEO} = 800V(\text{Min})$
- High Switching Speed
- Wide SOA

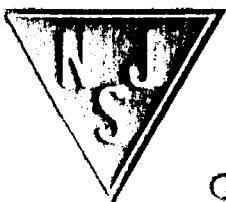


**ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ )**

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	850	V
$V_{CEO}$	Collector-Emitter Voltage	800	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	3	A
$I_{CM}$	Collector Current-Peak	10	A
$I_B$	Base Current-Continuous	1.5	A
$P_C$	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	50	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-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.



# Silicon NPN Power Transistor

# 2SC5027

## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
BV <sub>EB0</sub>	Emitter -Base Breakdown Voltage	I <sub>E</sub> = 1mA; I <sub>C</sub> = 0	7			V
BV <sub>CE0</sub>	Collector- Emitter Breakdown Voltage	I <sub>C</sub> = 5mA; I <sub>B</sub> = 0	800			V
BV <sub>CB0</sub>	Collector- Base Breakdown Voltage	I <sub>C</sub> = 1mA; I <sub>E</sub> = 0	850			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 1.5A; I <sub>B</sub> = 0.3A			2.0	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 1.5A; I <sub>B</sub> = 0.3A			1.5	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 800V; I <sub>E</sub> = 0			10	μ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			10	μ A
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 0.2A; V <sub>CE</sub> = 5V	10		40	
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 1A; V <sub>CE</sub> = 5V	8			
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> = 0; V <sub>CB</sub> = 10V; f= 1MHz		60		pF
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>E</sub> = 0.2A; V <sub>CE</sub> = 10V		15		MHz

### Switching Times

t <sub>on</sub>	Turn-On Time	I <sub>C</sub> =5I <sub>B1</sub> =-2.5 I <sub>B2</sub> =2A; V <sub>CC</sub> = 400V; R <sub>L</sub> = 200 Ω			0.5	μ s
t <sub>stg</sub>	Storage Time				3.0	μ s
t <sub>f</sub>	Fall Time				0.3	μ s