

Silicon NPN Power Transistor

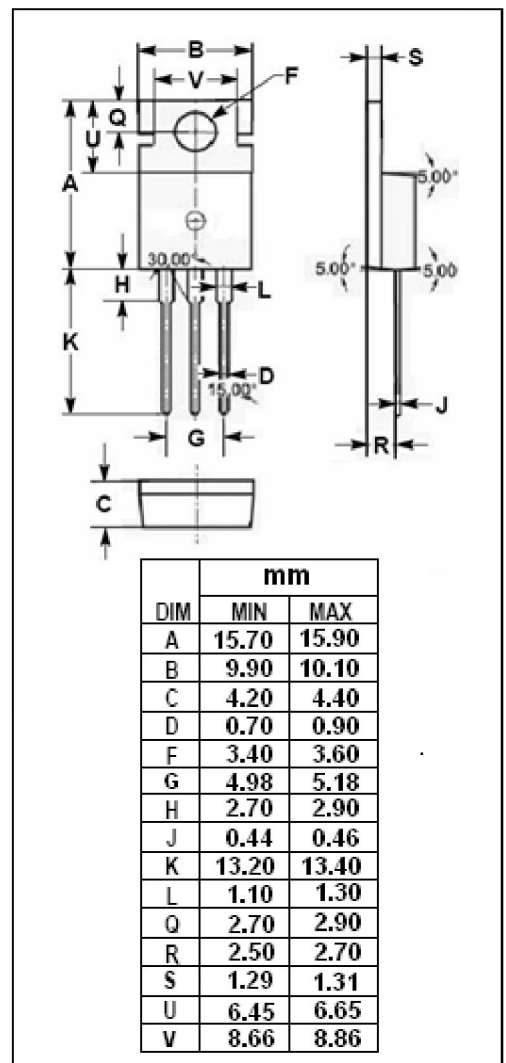
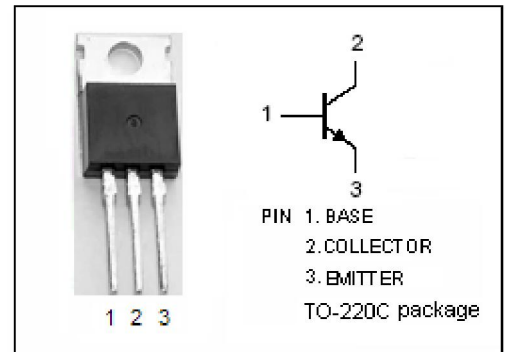
2SC5027

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	$^\circ\text{C}$



Silicon NPN Power Transistor

2SC5027

ELECTRICAL CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
BV _{EBO}	Emitter -Base Breakdown Voltage	I _E = 1mA; I _C = 0	7			V
BV _{CEO}	Collector- Emitter Breakdown Voltage	I _C = 5mA; I _B = 0	800			V
BV _{CBO}	Collector- Base Breakdown Voltage	I _C = 1mA; I _E = 0	850			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 1.5A; I _B = 0.3A			2.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 1.5A; I _B = 0.3A			1.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 800V; I _E = 0			10	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			10	μ A
h _{FE}	DC Current Gain	I _C = 0.2A; V _{CE} = 5V	10		40	
h _{FE}	DC Current Gain	I _C = 1A; V _{CE} = 5V	8			
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = 10V; f= 1MHz		60		pF
f _T	Current-Gain—Bandwidth Product	I _E = 0.2A; V _{CE} = 10V		15		MHz

Switching Times

t _{on}	Turn-On Time	I _C =5I _{B1} =-2.5 I _{B2} =2A; V _{CC} = 400V; R _L = 200 Ω			0.5	μ s
t _{stg}	Storage Time				3.0	μ s
t _f	Fall Time				0.3	μ s