# FAIRCHILD

SEMICONDUCTOR TM

## KSC5027

### **High Voltage and High Reliability**

- High Speed Switching
- Wide SOA



1.Base 2.Collector 3.Emitter

## **NPN Silicon Transistor**

Absolute Maximum Ratings T<sub>C</sub>=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V <sub>CBO</sub>	Collector-Base Voltage	1100	V
V <sub>CEO</sub>	Collector-Emitter Voltage	800	V
V <sub>EBO</sub>	Emitter-Base Voltage	7	V
I <sub>C</sub>	Collector Current (DC)	3	А
I <sub>CP</sub>	Collector Current (Pulse)	10	А
I <sub>B</sub>	Base Current	1.5	А
P <sub>C</sub>	Collector Dissipation (T <sub>C</sub> =25°C)	50	W
TJ	Junction Temperature	150	°C
T <sub>STG</sub>	Storage Temperature	- 55 ~ 150	°C

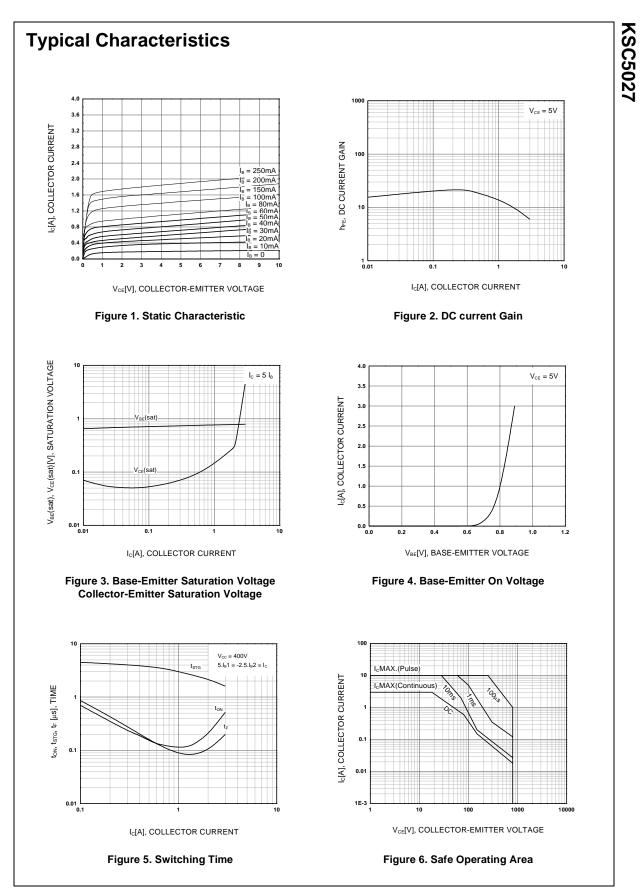
### Electrical Characteristics ${\rm T_{C}=25^{\circ}C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Тур.	Max.	Units
BV <sub>CBO</sub>	Collector-Base Breakdown Voltage	$I_{\rm C} = 1 {\rm mA}, \ I_{\rm E} = 0$	1100			V
BV <sub>CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 5mA, R <sub>BE</sub> =∞	800			V
BV <sub>EBO</sub>	Emitter-Base Breakdown Voltage	$I_{\rm E} = 1$ mA, $I_{\rm C} = 0$	7			V
V <sub>CEX</sub> (sus)	Collector-Emitter Sustaining Voltage	$I_{C} = 1.5A, I_{B1} = -I_{B2} = 0.3A$ L = 2mH, Clamped	800			V
I <sub>CBO</sub>	Collector Cut-off Current	$V_{CB} = 800 \text{V}, I_{E} = 0$			10	μΑ
I <sub>EBO</sub>	Emitter Cut-off Current	$V_{EB} = 5V, I_{C} = 0$			10	μΑ
h <sub>FE1</sub> h <sub>FE2</sub>	DC Current Gain	$V_{CE} = 5V, I_{C} = 0.2A$ $V_{CE} = 5V, I_{C} = 1A$	10 8		40	
V <sub>CE</sub> (sat)	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 1.5A, I <sub>B</sub> = 0.3A			2	V
V <sub>BE</sub> (sat)	Base-Emitter Saturation Voltage	I <sub>C</sub> = 1.5A, I <sub>B</sub> = 0.3A			1.5	V
C <sub>ob</sub>	Output Capacitance	$V_{CB} = 10V, I_E = 0, f = 1MHz$		60		pF
f <sub>T</sub>	Current Gain Bandwidth Product	$V_{CE} = 10V, I_{C} = 0.2A$		15		MHz
t <sub>ON</sub>	Turn ON Time	$V_{CC} = 400V$			0.5	μs
t <sub>STG</sub>	Storage Time	$I_{\rm C} = 5I_{\rm B1} = -2.5I_{\rm B2} = 2A$			3	μs
t <sub>F</sub>	Fall Time	$R_L = 200\Omega$			0.3	μs

### h<sub>FE</sub> Classification

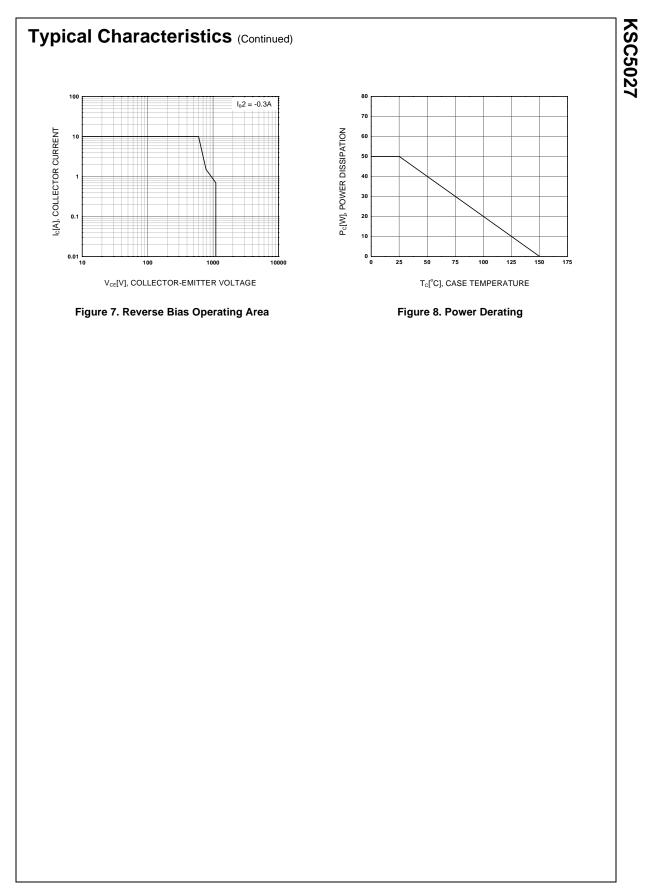
Classification	Ν	R	0
h <sub>FE1</sub>	10 ~ 20	15 ~ 30	20 ~ 40

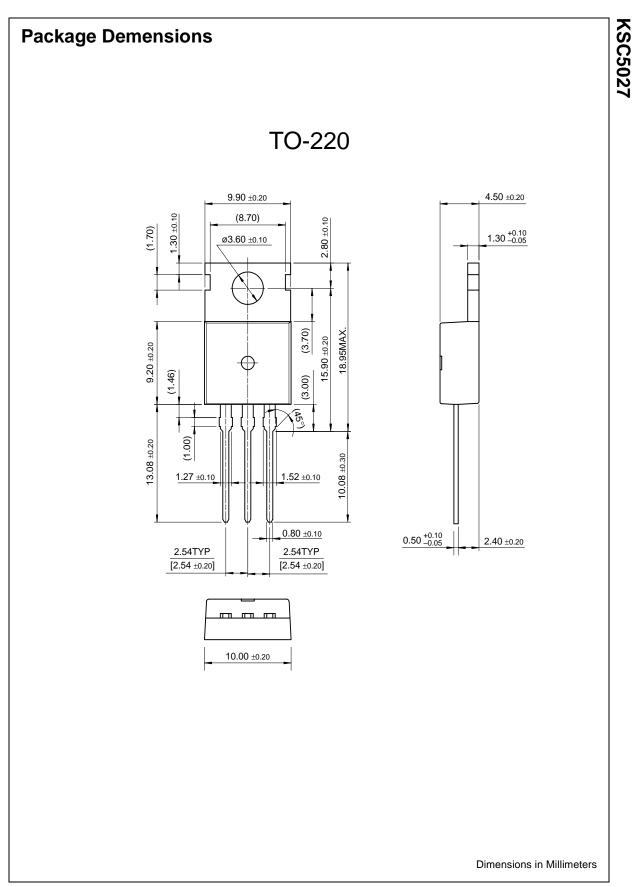
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