# FAIRCHILD

SEMICONDUCTOR®

# 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	
B 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	

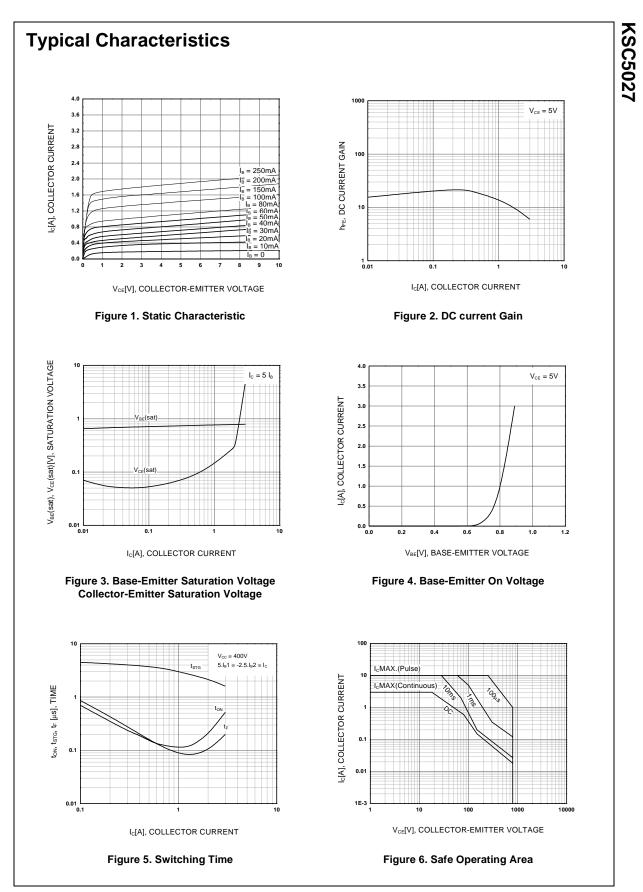
### Electrical Characteristics ${\rm T_{C}=25^{\circ}C}$ unless otherwise noted

Symbol Parameter		Test Condition	Min.	Тур.	Max.	Units
BV <sub>CBO</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> = 1mA, I <sub>E</sub> = 0	1100			V
BV <sub>CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 5mA, I <sub>B</sub> = 0	800			V
BV <sub>EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 1mA, I <sub>C</sub> = 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>	BO Emitter Cut-off Current $V_{EB} = 5V, I_C = 0$				10	μΑ
h <sub>FE1</sub> h <sub>FE2</sub>			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 $I_{C} = 1.5A, I_{B} = 0.3A$				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 <sub>CE</sub> = 10V, I <sub>C</sub> = 0.2A		15		MHz
t <sub>ON</sub>	Turn ON Time	V <sub>CC</sub> = 400V			0.5	μs
t <sub>STG</sub>	Storage Time	$I_{C} = 5I_{B1} = -2.5I_{B2} = 2A$			3	μs
t <sub>F</sub>	Fall Time	$R_L = 200\Omega$			0.3	μs

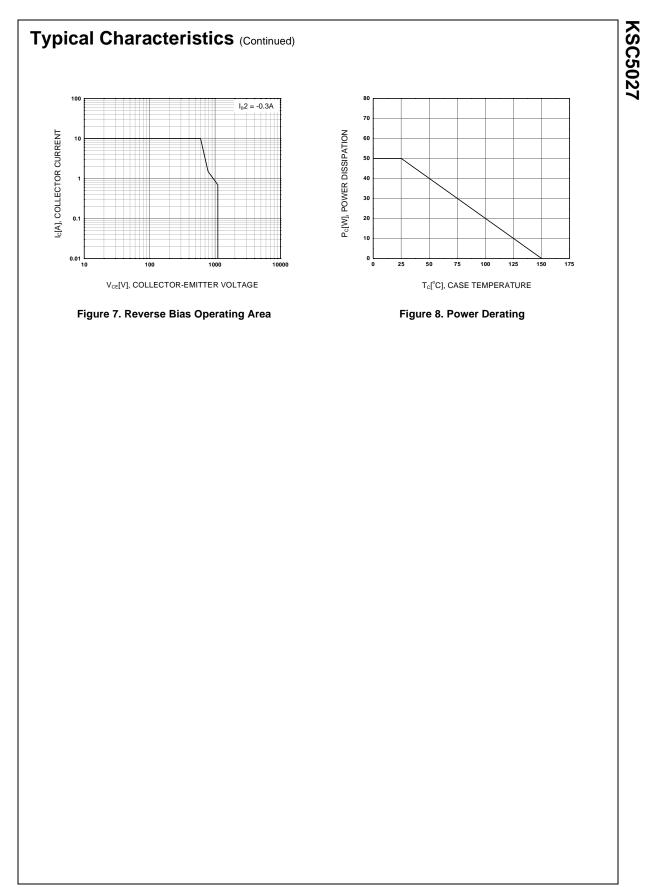
## h<sub>FE</sub> Classification

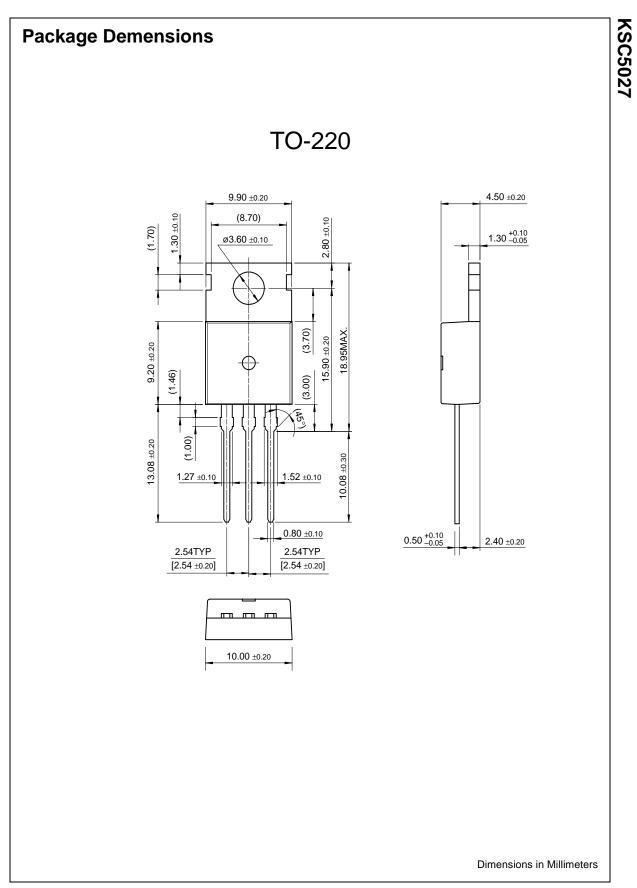
Classification	Ν	R	0
h <sub>FE1</sub>	10 ~ 20	15 ~ 30	20 ~ 40

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#### **Definition of Terms**

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary First Productio		This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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technical information	Product	Product status	Pricing*	Package type	Leads	Packing method
buy products	KSC5027R	Full Production	\$0.62	TO-220	3	BULK

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	Product	Product status	Pricing*	Package type	Leads	Packing method
	KSC5027R	Full Production	\$0.62	TO-220	3	BULK
7	KSC5027O	Full Production	\$0.62	TO-220	3	BULK
4	KSC5027OTU	Full Production	\$0.62	TO-220	3	RAIL
4	KSC5027ON	Full Production	\$0.62	TO-220	3	BULK
	KSC5027RTU	Full Production	\$0.62	TO-220	3	RAIL
	KSC5027RHTU	Full Production	\$0.62	TO-220	3	RAIL

\* 1,000 piece Budgetary Pricing

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Models

Package & leads Condition Temperature range			Software version	Revision date			
PSPICE							
TO-220-3	Electrical/Thermal	-25°C to 100°C	9.2	Mar 16, 2001			

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