



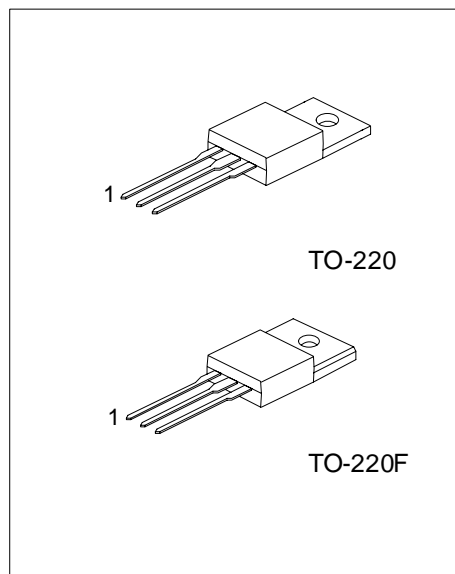
## 2SC5027

## NPN SILICON TRANSISTOR

### HIGH VOLTAGE AND HIGH RELIABILITY

#### FEATURES

- \* High Voltage ( $V_{CE0} = 800V$ )
- \* High Speed Switching
- \* Wide SOA



\*Pb-free plating product number: 2SC5027L

#### ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
2SC5027-x-TA3-T	2SC5027L-x-TA3-T	TO-220	B	C	E	Tube
2SC5027-x-TF3-T	2SC5027L-x-TF3-T	TO-220F	B	C	E	Tube

<p>2SC5027L-x-TA3-T</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Rank</p> <p>(4) Lead Plating</p>	<p>(1) T: Tube</p> <p>(2) TA3: TO-220, TF3: TO-220F</p> <p>(3) x: refer to Classification of <math>h_{FE1}</math></p> <p>(4) L: Lead Free Plating, Blank: Pb/Sn</p>
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■ ABSOLUTE MAXIMUM RATINGS ( $T_c = 25$  )

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	$V_{CBO}$	850	V
Collector-Emitter Voltage	$V_{CEO}$	800	V
Collector-Emitter Voltage	$V_{EBO}$	7	V
Peak Collector Current	$I_C$	3	A
Collector Current (Pulse)	$I_{CP}$	10	A
Base Current	$I_B$	1.5	A
Power Dissipation	$P_C$	50	W
Junction Temperature	$T_J$	150	
Storage Temperature	$T_{STG}$	-55 ~ +150	

Note Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

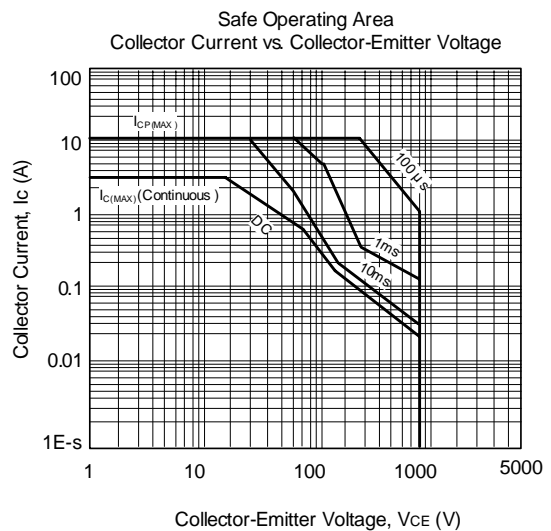
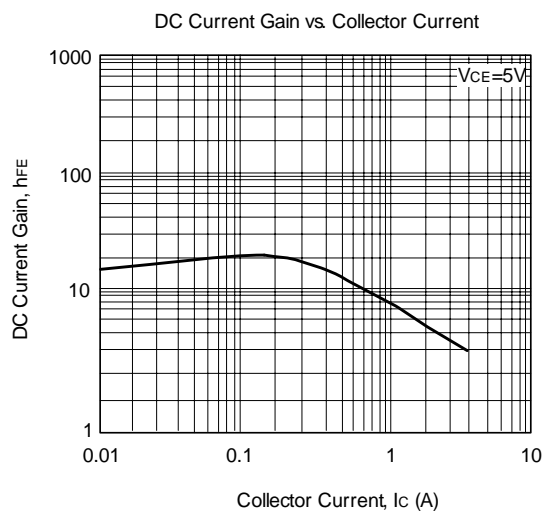
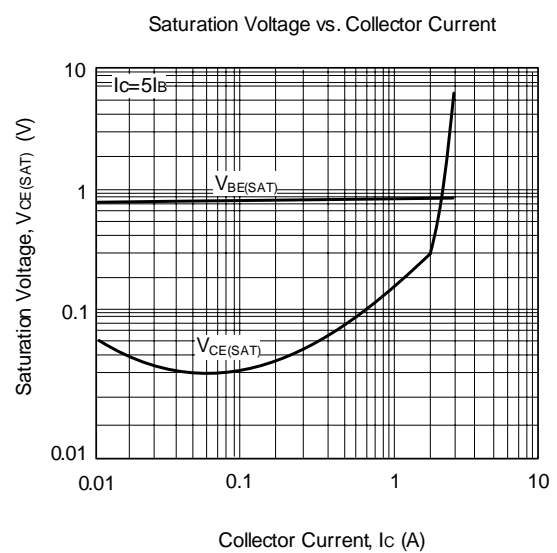
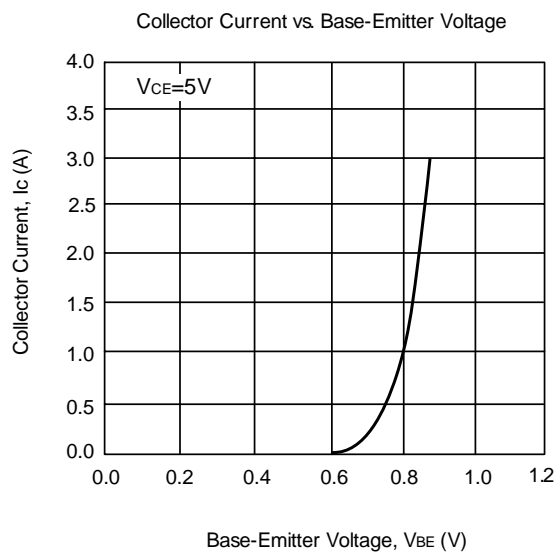
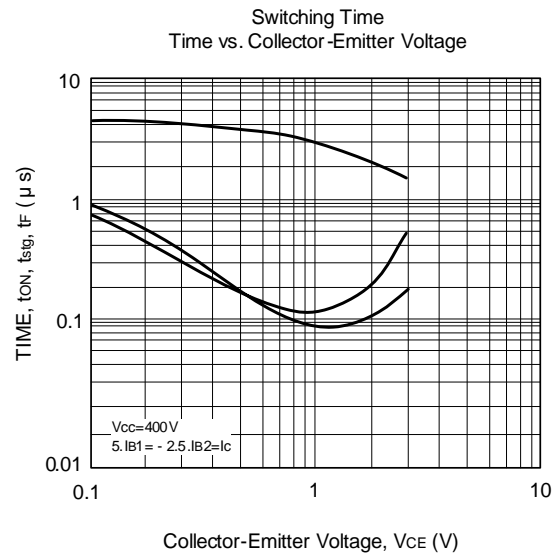
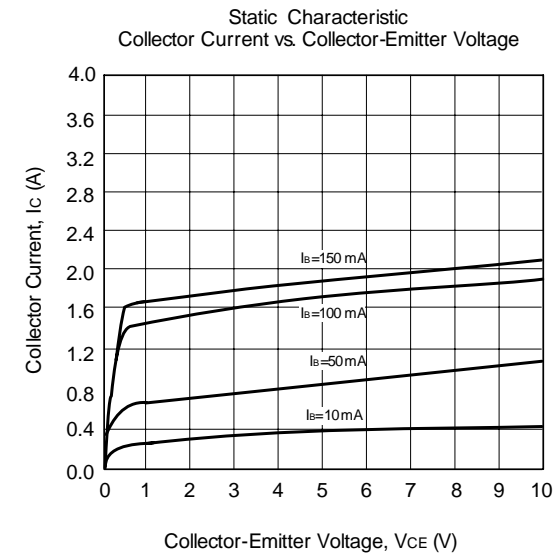
■ ELECTRICAL CHARACTERISTICS ( $T_c = 25$  , unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C = 1\text{mA}$ , $I_E = 0$	850			V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C = 5\text{mA}$ , $I_B = 0$	800			V
Emitter-Base Breakdown Voltage	$BV_{EBO}$	$I_E = 1\text{mA}$ , $I_C = 0$	7			V
Collector-Emitter sustaining Voltage	$V_{CEX(SUS)}$	$I_C = 1.5\text{A}$ , $I_{B1} = -I_{B2} = 0.3\text{A}$ $L = 2\text{mH}$ , Clamped	800			V
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 800\text{V}$ , $I_E = 0$			10	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 5\text{V}$ , $I_C = 0$			10	$\mu\text{A}$
DC Current Gain	$h_{FE1}$	$V_{CE} = 5\text{V}$ , $I_C = 0.2\text{A}$	10		40	
	$h_{FE2}$	$V_{CE} = 5\text{V}$ , $I_C = 1\text{A}$	8			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = 1.5\text{A}$ , $I_B = 0.3\text{A}$			2	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C = 1.5\text{A}$ , $I_B = 0.3\text{A}$			1.5	V
Output Capacitance	$C_{ob}$	$V_{CB} = 10\text{V}$ , $f = 1\text{MHz}$ , $I_E = 0$		60		pF
Current Gain Bandwidth Product	$f_T$	$V_{CE} = 10\text{V}$ , $I_C = 0.2\text{A}$		15		MHz
Turn ON Time	$t_{ON}$	$V_{CC} = 400\text{V}$			0.5	$\mu\text{s}$
Storage Time	$t_S$	$I_C = 5I_{B1} = -2.5I_{B2} = 2\text{A}$			3	$\mu\text{s}$
Fall Time	$t_F$	$R_L = 200$			0.3	$\mu\text{s}$

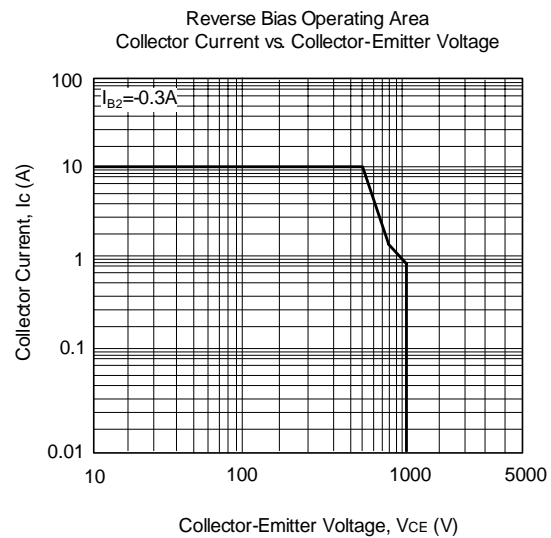
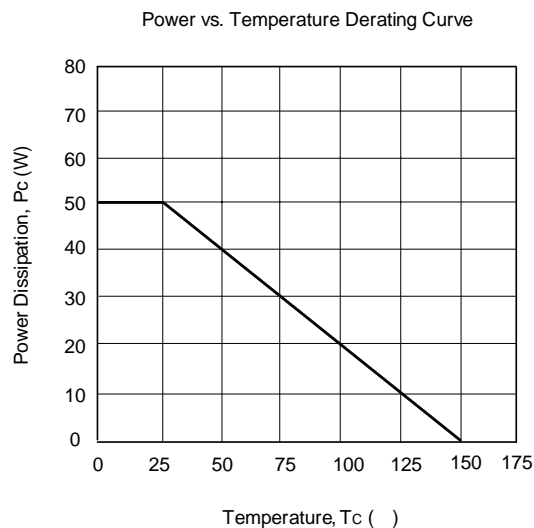
■ CLASSIFICATION of  $h_{FE1}$

RANK	N	R	O
RANGE	10 ~ 20	15 ~ 30	20 ~ 40

# TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS(Cont.)



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