



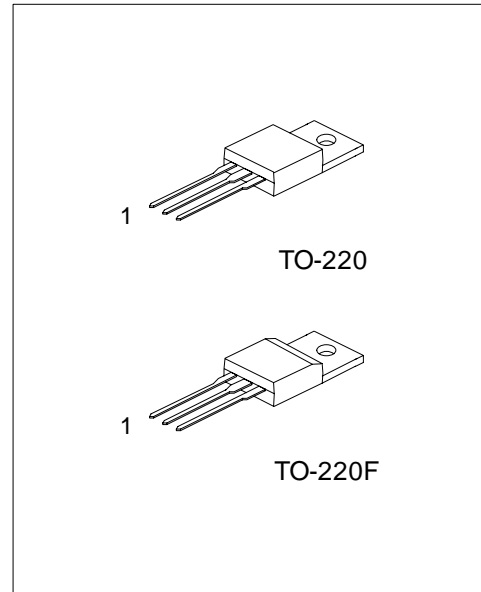
# 2SC5027E

## NPN SILICON TRANSISTOR

HIGH VOLTAGE AND HIGH RELIABILITY TRANSISTOR

■ FEATURES

- \* High Speed Switching
- \* Wide SOA



\*Pb-free plating product number: 2SC5027EL

■ ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
2SC5027E-x-TA3-T	2SC5027EL-x-TA3-T	TO-220	B	C	E	Tube
2SC5027E-x-TF3-T	2SC5027EL-x-TF3-T	TO-220F	B	C	E	Tube

<p>2SC5027EL-x-TA3-T</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	$V_{CBO}$	750	V
Collector-Emitter Voltage	$V_{CEO}$	700	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	$P_D$	50	W
Junction Temperature	$T_J$	150	
Storage Temperature	$T_{STG}$	-40 ~ +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.

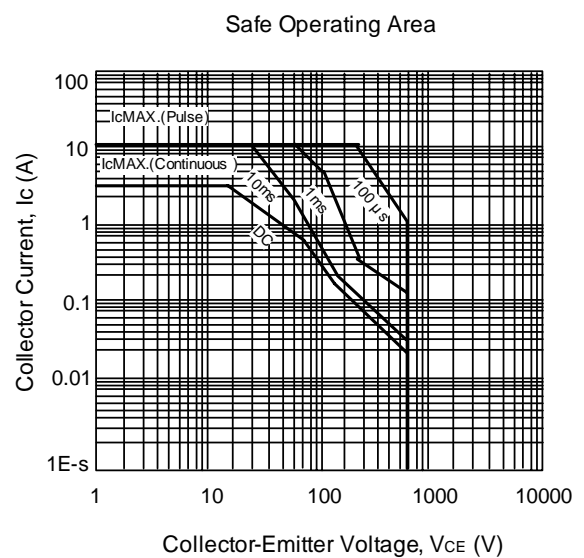
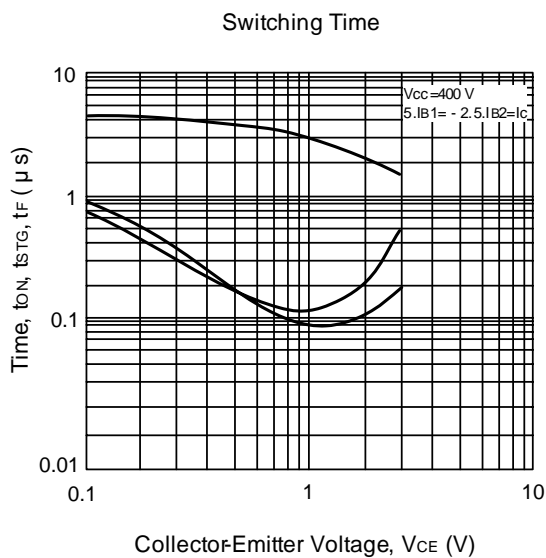
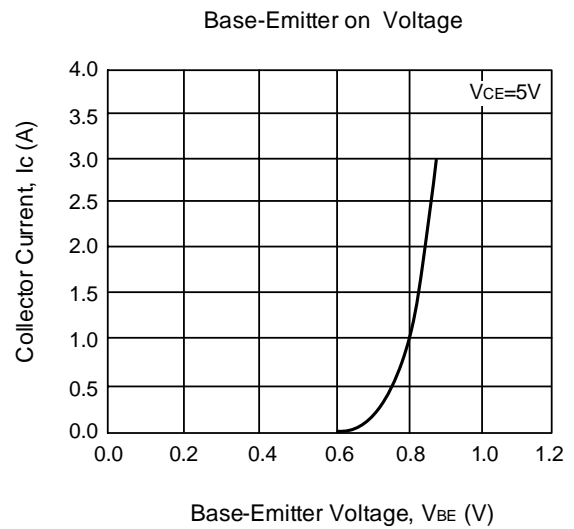
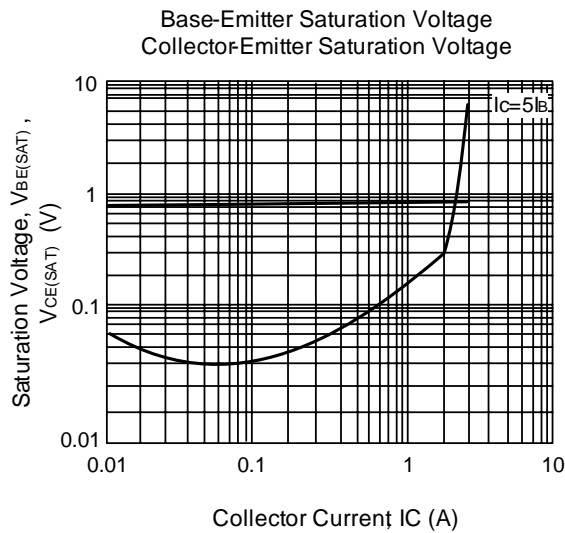
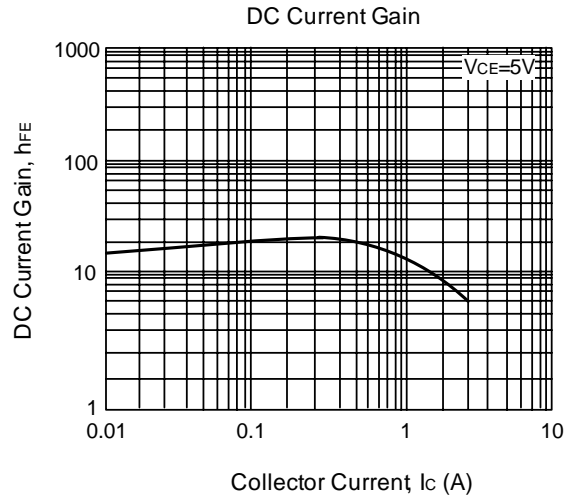
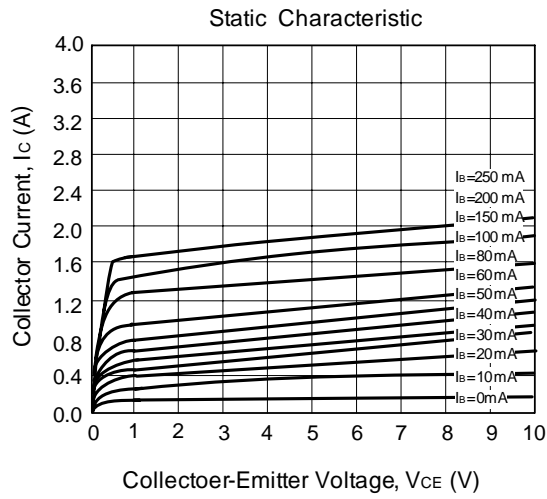
■ ELECTRICAL CHARACTERISTICS ( $T_c = 25$  , unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C=1mA, I_E=0$	750			V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=5mA, I_B=0$	700			V
Emitter-Base Breakdown Voltage	$BV_{EBO}$	$I_E=1mA, I_C=0$	7			V
Collector-Emitter sustaining Voltage	$V_{CEO(SUS)}$	$I_C=1.5A, I_{B1}=-I_{B2}=0.3A$ $L=2mH, \text{Clamped}$	700			V
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=750V, I_E=0$			10	$\mu A$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=5V, I_C=0$			10	$\mu A$
DC Current Gain	$h_{FE1}$	$V_{CE}=5V, I_C=0.2A$	10		40	
	$h_{FE2}$	$V_{CE}=5V, I_C=1A$	8			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=1.5A, I_B=0.3A$			2	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=1.5A, I_B=0.3A$			1.5	V
Output Capacitance	$C_{ob}$	$V_{CB}=10V, f=1MHz, I_E=0$		60		pF
Current Gain Bandwidth Product	$f_T$	$V_{CE}=10V, I_C=0.2A$		15		MHz
Turn ON Time	$t_{ON}$	$V_{CC}=400V$			0.5	$\mu s$
Storage Time	$t_S$	$I_C=5I_{B1}=-2.5I_{B2}=2A$			3	$\mu s$
Fall Time	$t_F$	$R_L=200$			0.3	$\mu s$

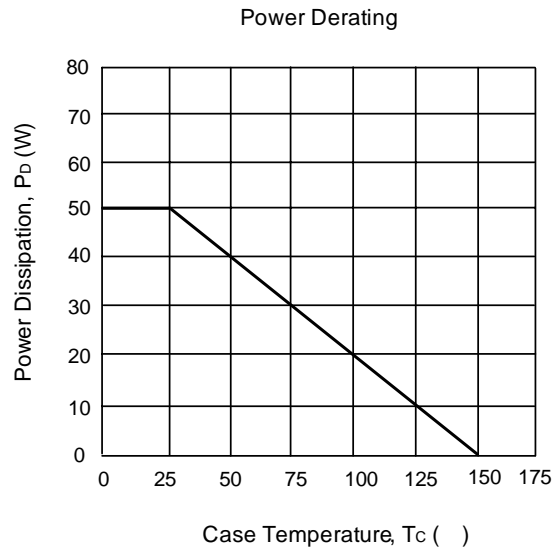
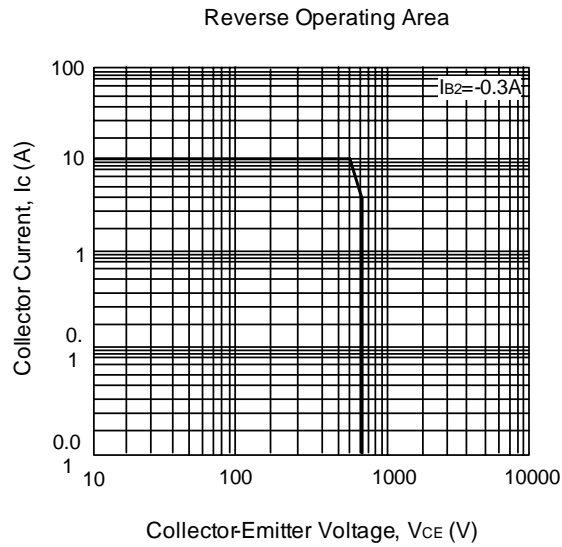
■ CLASSIFICATION of  $h_{FE1}$

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

## TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS(Cont.)



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