



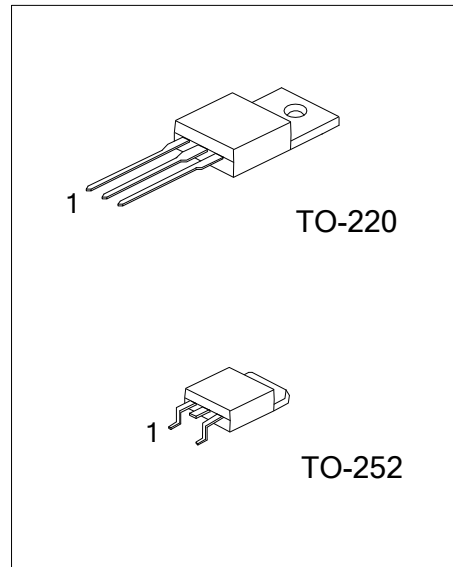
2SC4027

NPN SILICON TRANSISTOR

HIGH-VOLTAGE SWITCHING APPLICATIONS

■ FEATURES

- * High voltage and large current capacity.
- * Fast switching time.



■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SC4027L-x-TA3-T	2SC4027G-x-TA3-T	TO-220	B	C	E	Tube
2SC4027L-x-TN3-R	2SC4027G-x-TN3-R	TO-252	B	C	E	Tape Reel

<p>2SC4027L-x-TA3-T</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Rank</p> <p>(4) Lead Free</p>	<p>(1) T: Tube, R: Tape Reel</p> <p>(2) TA3: TO-220, TN3: TO-252</p> <p>(3) x: refer to Classification of h_{FE1}</p> <p>(4) G: Halogen Free, L: Lead Free</p>
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■ ABSOLUTE MAXIMUM RATING ($T_A=25^\circ\text{C}$, unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Collector to Base Voltage		V_{CBO}	180	V
Collector to Emitter Voltage		V_{CEO}	160	V
Emitter to Base Voltage		V_{EBO}	6	V
Collector Current		I_C	1.5	A
Collector Current (Pulse)		I_{CP}	2.5	A
Collector Dissipation	$T_A=25^\circ\text{C}$	TO-220	2	W
		TO-252	1	
	$T_C=25^\circ\text{C}$	TO-220	65	W
		TO-252	15	
Junction Temperature		T_J	150	$^\circ\text{C}$
Storage Temperature		T_{STG}	-55 ~ +150	$^\circ\text{C}$

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.

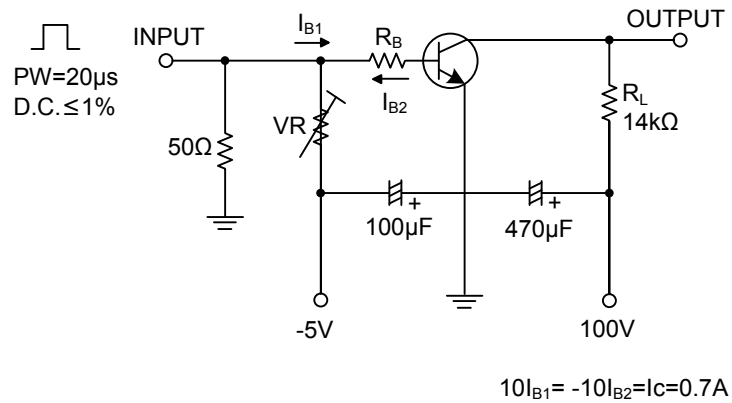
■ ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=10\text{A}, I_E=0$	180			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=1\text{mA}, R_{BE}=\infty$	160			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=10\mu\text{A}, I_C=0$	6			V
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		0.13	0.45	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		0.85	1.2	V
Collector Cutoff Current	I_{CBO}	$V_{CB}=120\text{V}, I_E=0$			1.0	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=4\text{V}, I_C=0$			1.0	μA
DC Current Gain	h_{FE1}	$V_{CE}=5\text{V}, I_C=100\text{mA}$	100		400	
	h_{FE2}	$V_{CE}=5\text{V}, I_C=10\text{mA}$	80			
Gain-Bandwidth Product	f_T	$V_{CE}=10\text{V}, I_C=50\text{mA}$		120		MHz
Output Capacitance	C_{OB}	$V_{CB}=-10\text{V}, f=1\text{MHz}$		12		pF
Turn-On Time	T_{ON}	See specified Test Circuit		60		μs
Storage Time	T_{STG}			1.2		μs
Fall Time	t_F			80		μs

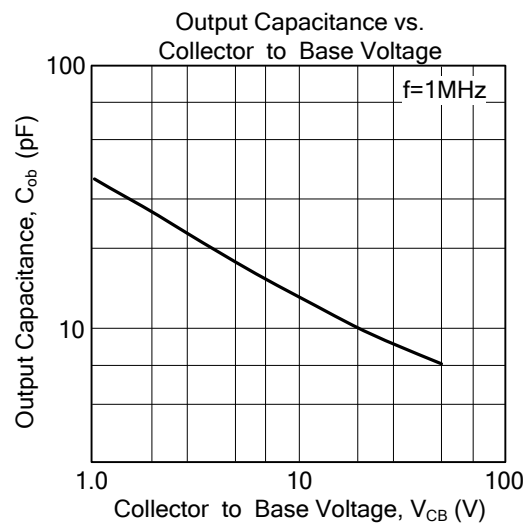
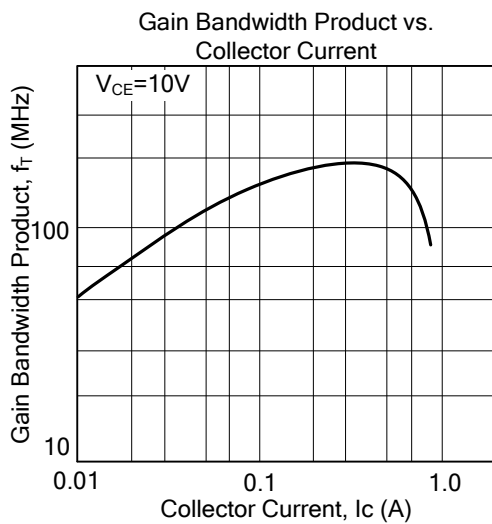
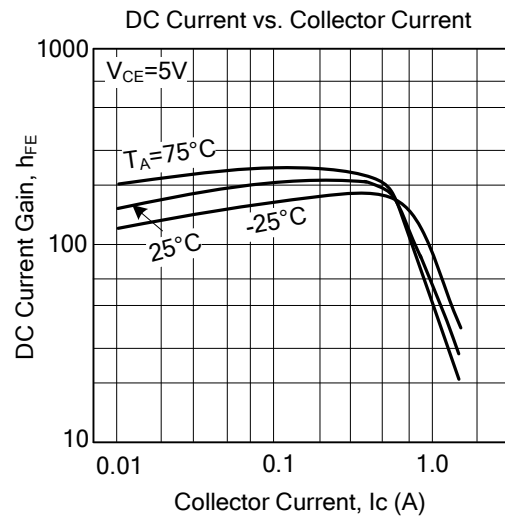
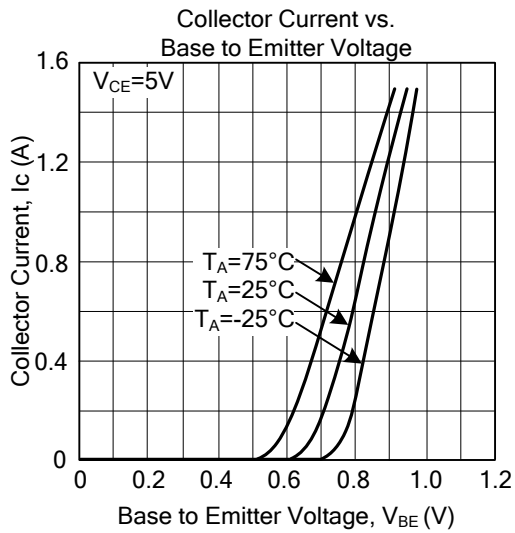
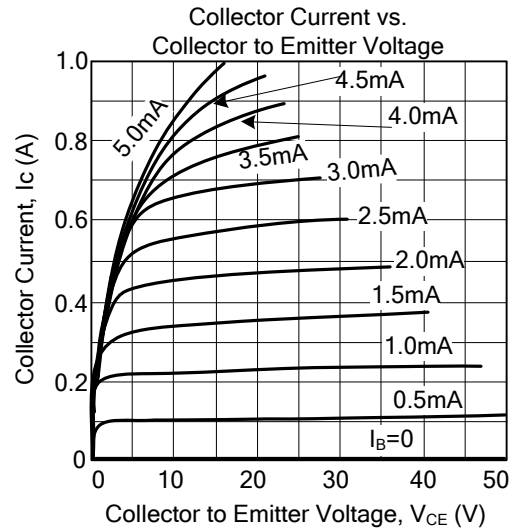
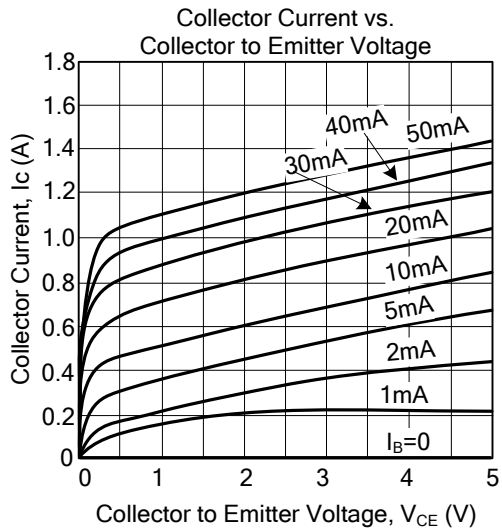
■ CLASSIFICATION OF h_{FE1}

RANK	R	S	T
RANGE	100~200	140~280	200~400

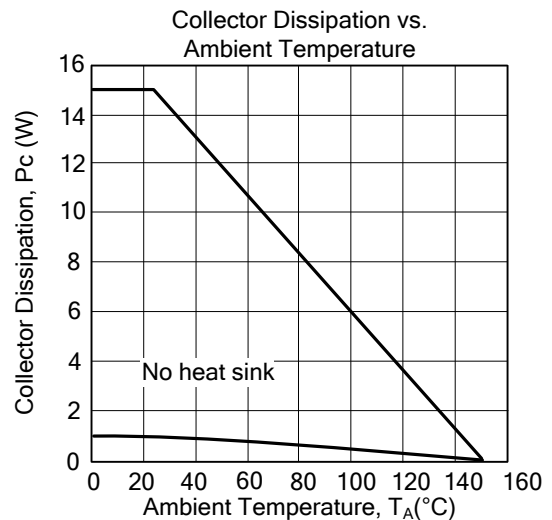
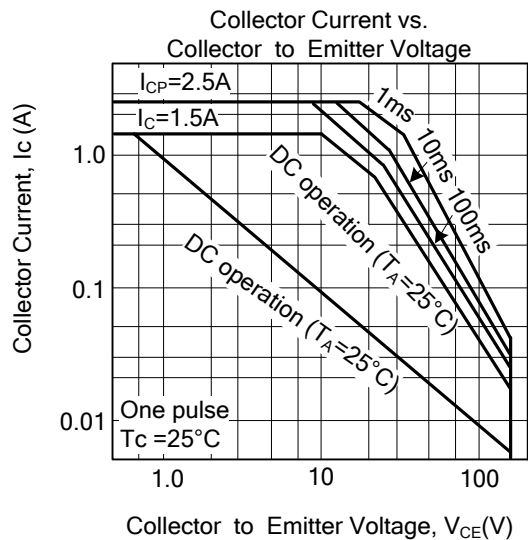
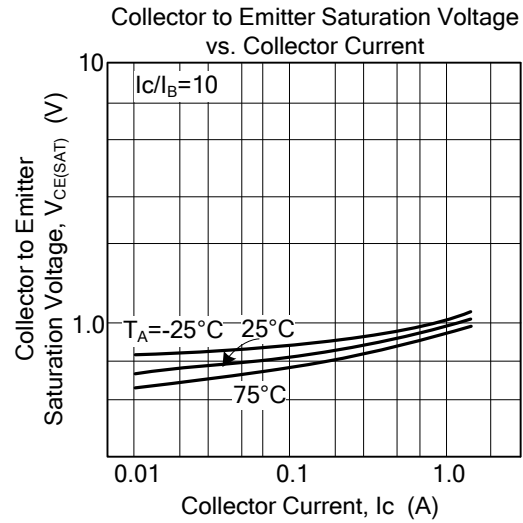
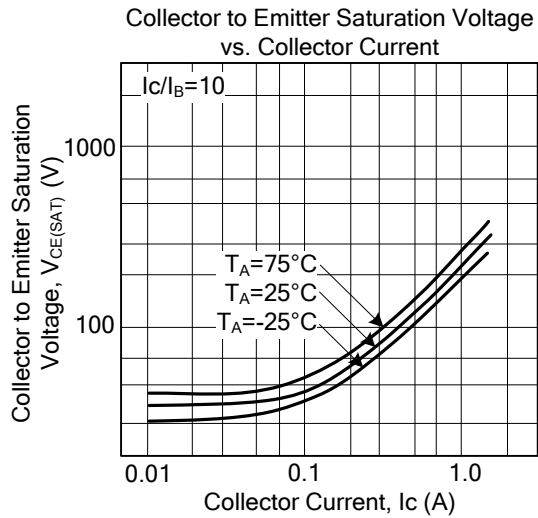
■ SWITCHING TIME TEST CIRCUIT



TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS(Cont.)



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