



## 2SC5569

## NPN SILICON TRANSISTOR

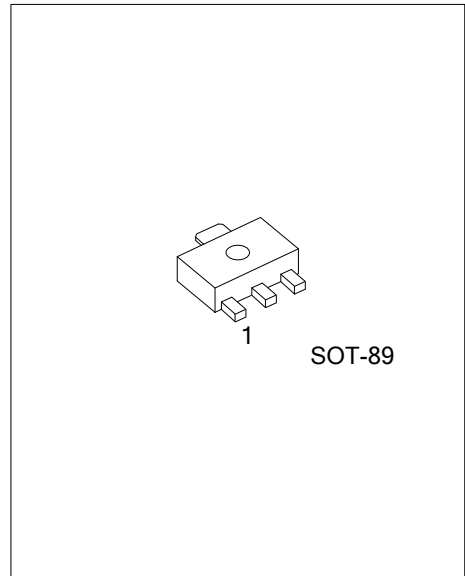
### DC/DC CONVERTER APPLICATIONS

#### FEATURES

- \*High current capacitance.
- \*Low collector-to-emitter saturation voltage.
- \*High-speed switching.
- \*High allowable power dissipation.
- \*Complementary to 2SA2016.

#### APPLICATIONS

- \*Relay drivers, lamp drivers, motor drivers, strobes



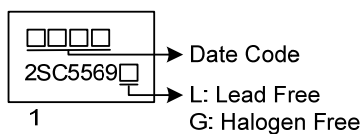
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SC5569L-AB3-R	2SC5569G-AB3-R	SOT-89	B	C	E	Tape Reel

Note: Pin assignment: B: Base C: Collector E: Emitter

<p>2SC5569G-AB3-R</p> <p>(1) Packing Type (2) Package Type (3) Green Package</p>	<p>(1) R: Tape Reel (2) AB3: SOT-89 (3) G: Halogen Free and Lead Free, L: Lead Free</p>
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#### MARKING



■ ABSOLUTE MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ , unless otherwise specified)

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	80	V
Collector-Emitter Voltage	$V_{CEO}$	50	V
Emitter-Base Voltage	$V_{EBO}$	6	V
Collector Current	$I_c$	7	A
Collector Current (Pulse)	$I_{cp}$	10	A
Base Current	$I_B$	1.2	A
Collector Dissipation (Note 2)	$P_C$	1.3	W
Collector Dissipation ( $T_C=25^\circ\text{C}$ )		3.5	W
Junction Temperature	$T_J$	+150	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-55 ~ +150	$^\circ\text{C}$

Notes: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged.

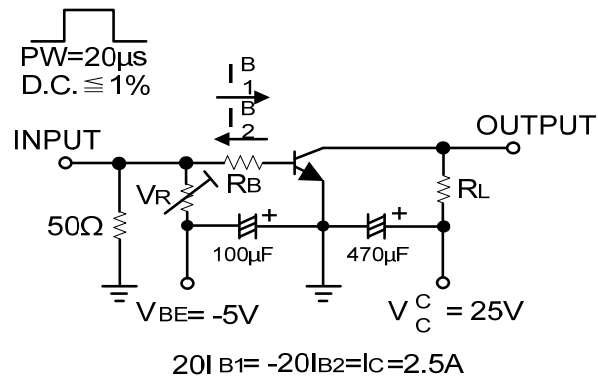
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

2. Mounted on ceramic board (250mm × 0.8mm)

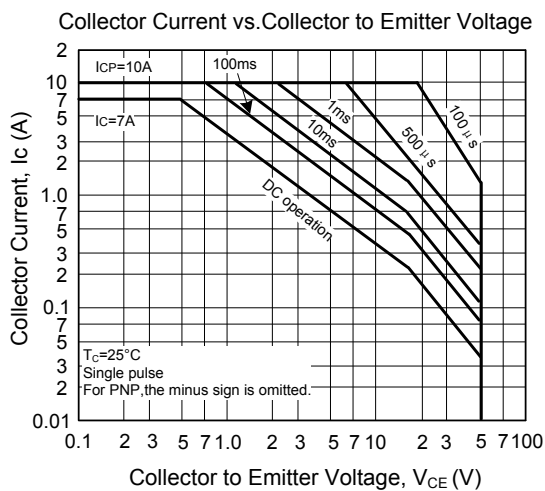
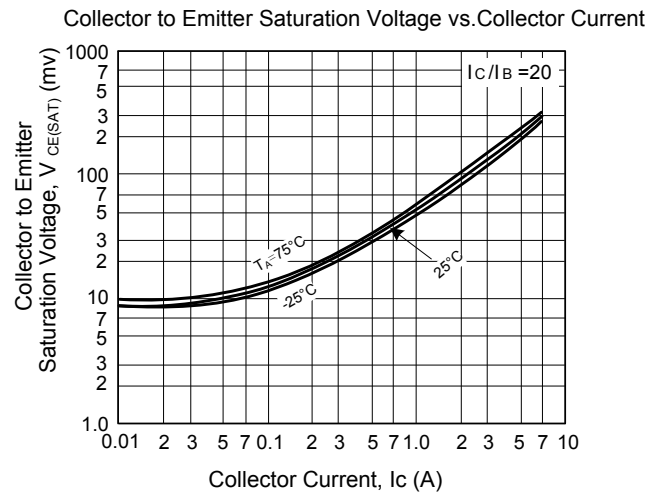
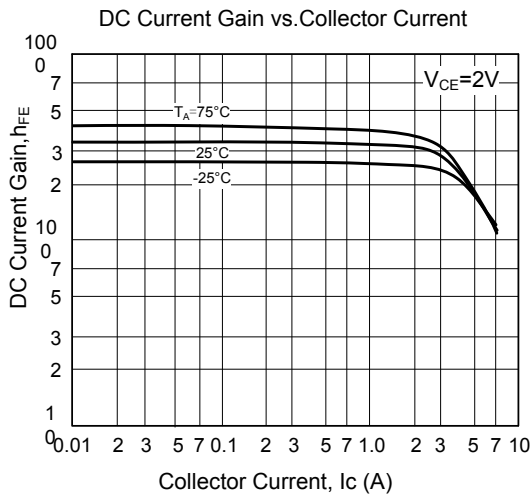
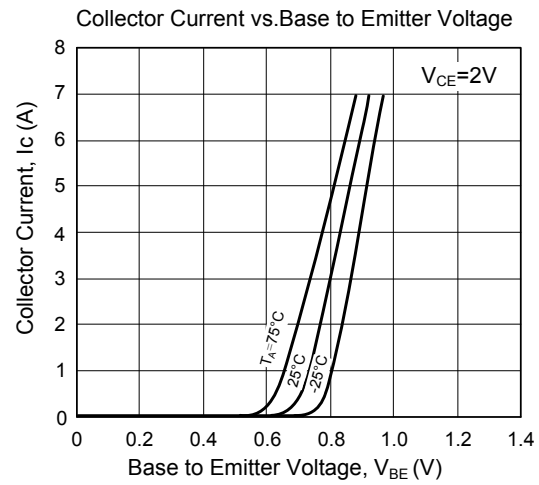
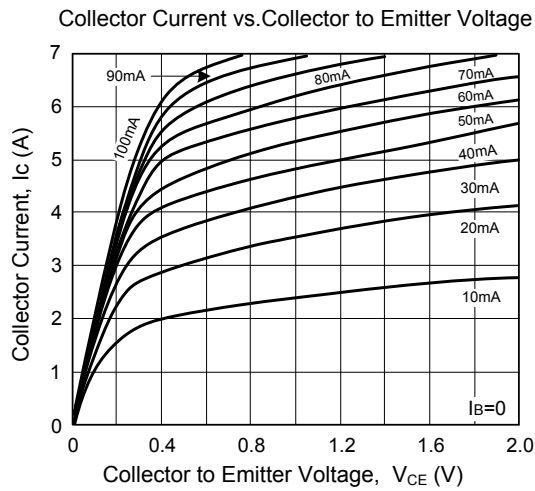
■ ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ , unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	$I_c=10\mu\text{A}, I_E=0$	80			V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_c=1\text{mA}, R_{BE}=\infty$	50			V
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}, I_C=0$	6			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=40\text{V}, I_E=0$			0.1	$\mu\text{A}$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=4\text{V}, I_C=0$			0.1	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE}=2\text{V}, I_C=500\text{mA}$	200		560	
Collector to Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_c=3.5\text{A}, I_B=175\text{mA}$		160	240	mV
		$I_c=2\text{A}, I_B=40\text{mA}$		110	170	mV
Base to Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_c=2\text{A}, I_B=40\text{mA}$		0.83	1.2	V
Gain Bandwidth Product	$f_T$	$V_{CE}=10\text{V}, I_C=500\text{mA}$		330		MHz
Output Capacitance	$C_{OB}$	$V_{CB}=10\text{V}, f=1\text{MHz}$		28		pF
Turn-On Time	$T_{ON}$	See specified Test Circuit		30		ns
Storage Time	$T_{STG}$	See specified Test Circuit		420		ns
Fall Time	$T_F$	See specified Test Circuit		25		ns

■ SWITCHING TIME TEST CIRCUIT

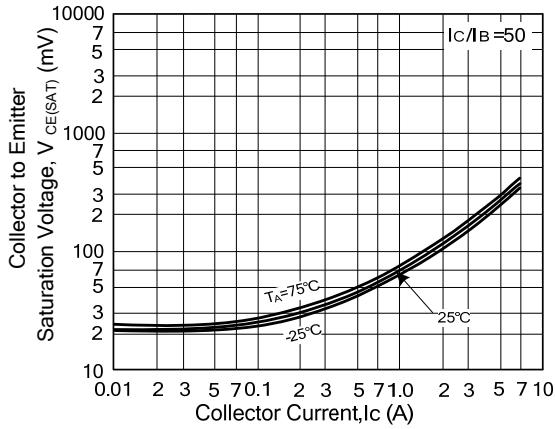


## TYPICAL CHARACTERISTICS

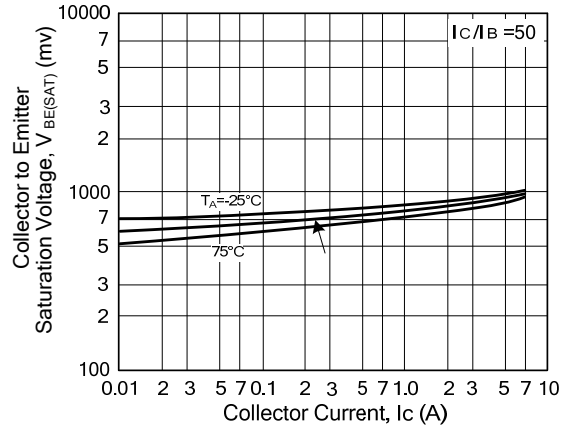


## TYPICAL CHARACTERISTICS (Cont.)

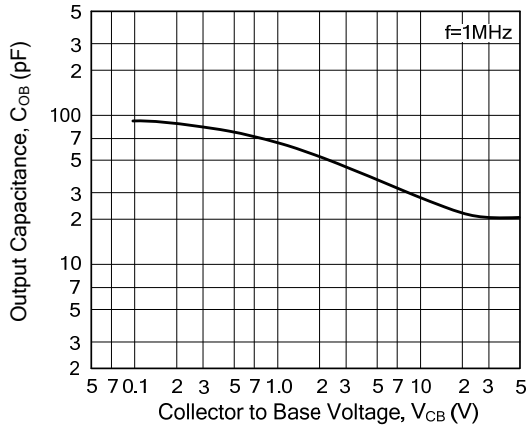
Collector to Emitter Saturation Voltage vs. Collector Current



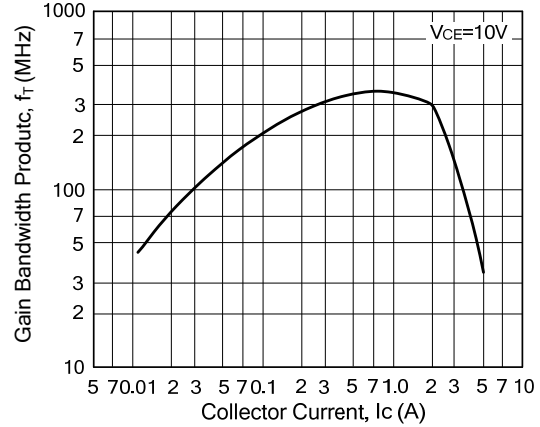
Collector to Emitter Saturation Voltage vs. Collector Current



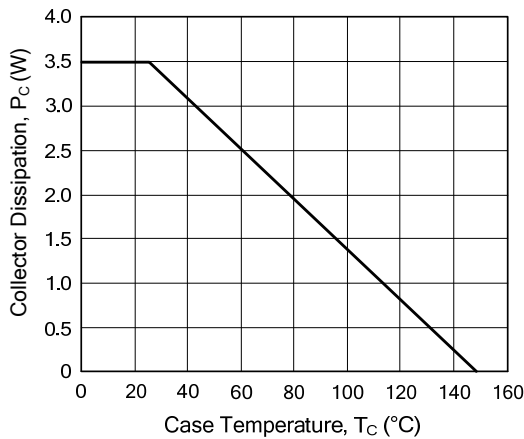
Output Capacitance vs. Collector to Base Voltage



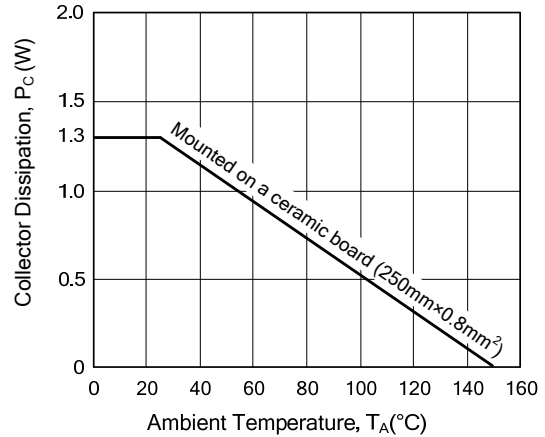
Gain Bandwidth Product vs. Collector Current



Collector Dissipation vs. Case Temperature



Collector Dissipation vs. Ambient Temperature



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