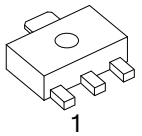
2SC5569

NPN SILICON TRANSISTOR

DC/DC CONVERTER APPLICATIONS



SOT-89

■ 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

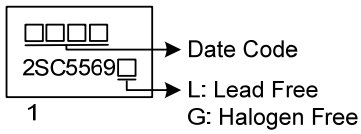
■ ORDERING INFORMATION

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

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

■ MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_A= 25°C, unless otherwise specified)

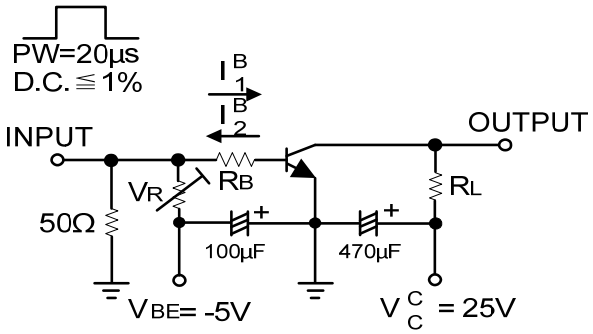
PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	7	A
Collector Current (Pulse)	I_{CP}	10	A
Base Current	I_B	1.2	A
Collector Dissipation (Note 2)	P_C	1.3	W
Collector Dissipation (T_C=25°C)		3.5	W
Junction Temperature	T_J	+150	°C
Storage Temperature	T_{STG}	-55 ~ +150	°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°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=10μA,I_E=0	80			V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=1mA,R_{BE}=∞	50			V
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=10μA,I_E=0	6			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=40V,I_E=0			0.1	μA
Emitter Cut-Off Current	I_{EBO}	V_{EB}=4V,I_C=0			0.1	μA
DC Current Gain	h_{FE}	V_{CE}=2V,I_C=500mA	200		560	
Collector to Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C=3.5A,I_B=175mA		160	240	mV
		I_C=2A,I_B=40mA		110	170	mV
Base to Emitter Saturation Voltage	$V_{BE(SAT)}$	I_C=2A,I_B=40mA		0.83	1.2	V
Gain Bandwidth Product	f_T	V_{CE}=10V,I_C=500mA		330		MHz
Output Capacitance	C_{OB}	V_{CB}=10V, f=1MHz		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

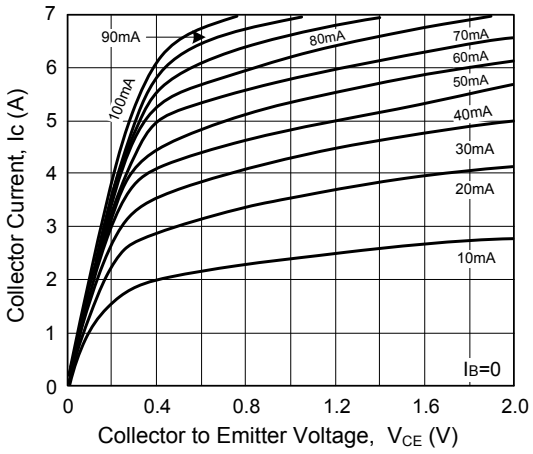
■ SWITCHING TIME TEST CIRCUIT



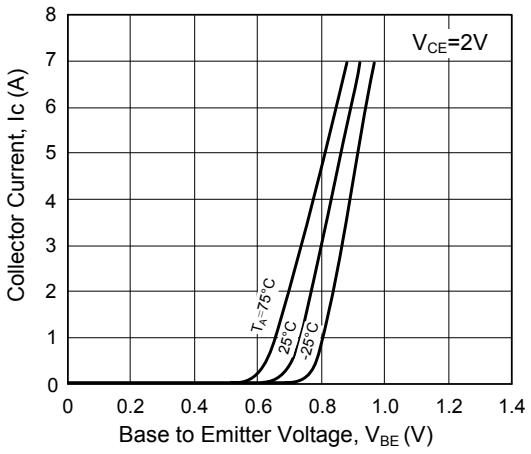
$20I_{B1}= -20I_{B2}=I_C=2.5A$

■ TYPICAL CHARACTERISTICS

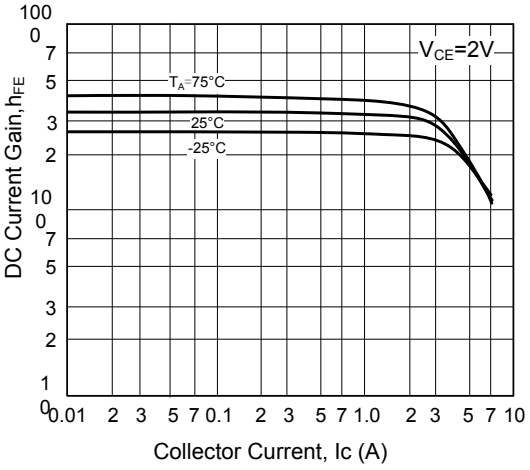
Collector Current vs.Collector to Emitter Voltage



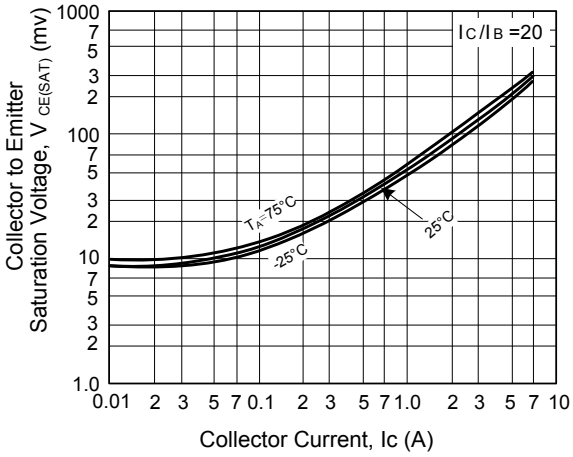
Collector Current vs.Base to Emitter Voltage



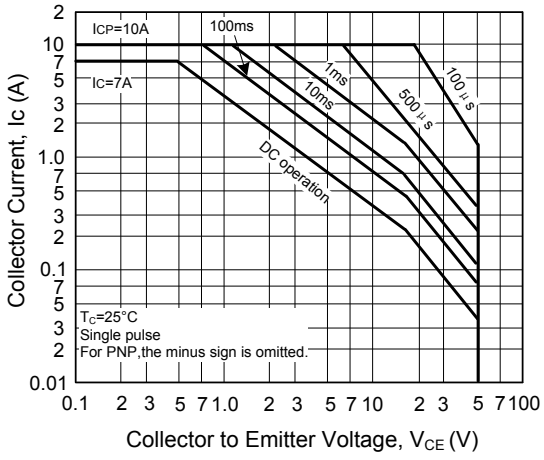
DC Current Gain vs.Collector Current



Collector to Emitter Saturation Voltage vs.Collector Current

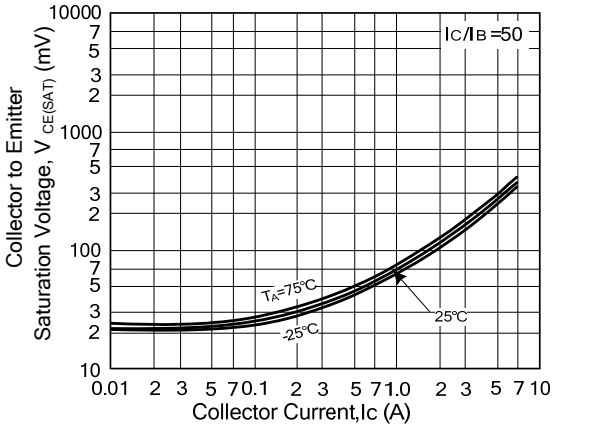


Collector Current vs.Collector to Emitter Voltage

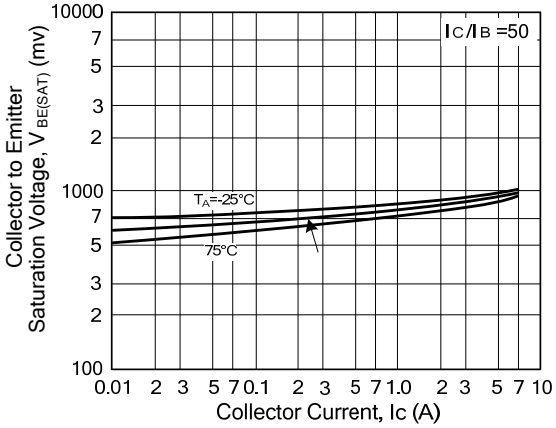


■ TYPICAL CHARACTERISTICS (Cont.)

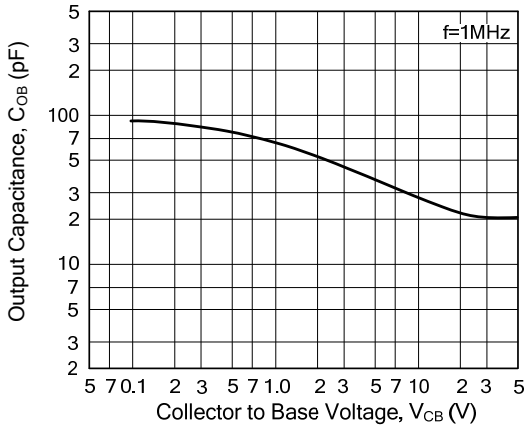
Collector to Emitter Saturation Voltage vs.Collector Current



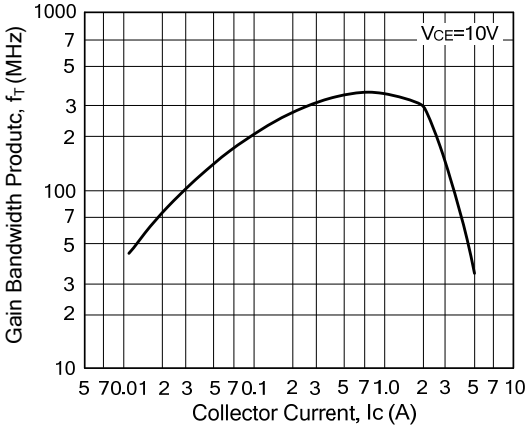
Collector to Emitter Saturation Voltage vs.Collector Current



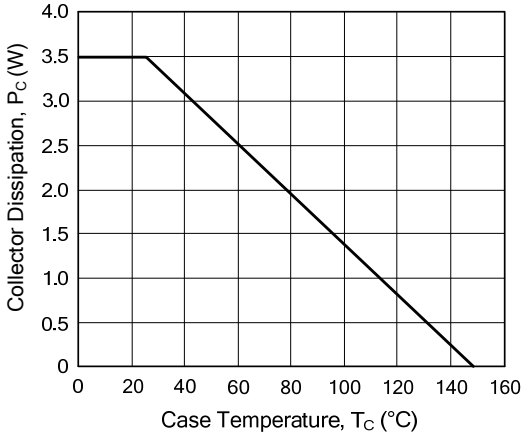
Output Capacitance vs.Collector to Base Voltage



Gain Bandwidth Produtc vs.Collector Current



Collector Dissipation vs.Case Temperature



Collector Dissipation vs.Ambient Temperature