



2SC5889

NPN EPITAXIAL SILICON TRANSISTOR

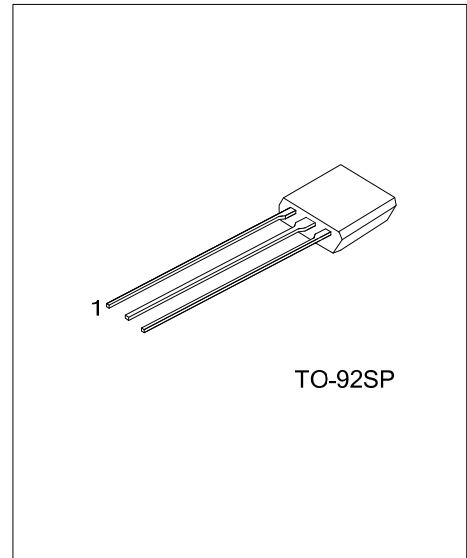
DC/DC CONVERTER APPLICATIONS

■ FEATURES

- *Large current capacitance
- *Low collector-emitter saturation voltage
- *High-speed switching
- *High allowable power dissipation

■ APPLICATIONS

- * relay drivers, lamp drivers, motor drivers, strobes



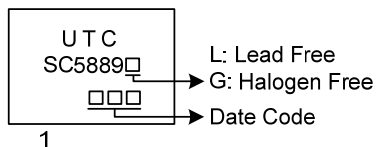
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SC5889L-T9S-K	2SC5889G-T9S-K	TO-92SP	E	C	B	Bulk

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

<p>2SC5889G-T9S-K</p> <ul style="list-style-type: none"> (1) Packing Type (2) Package Type (3) Green Package 	<ul style="list-style-type: none"> (1) K: Bulk (2) T9S: TO-92SP (3) G: Halogen Free and Lead Free, L: Lead Free
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■ MARKING



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

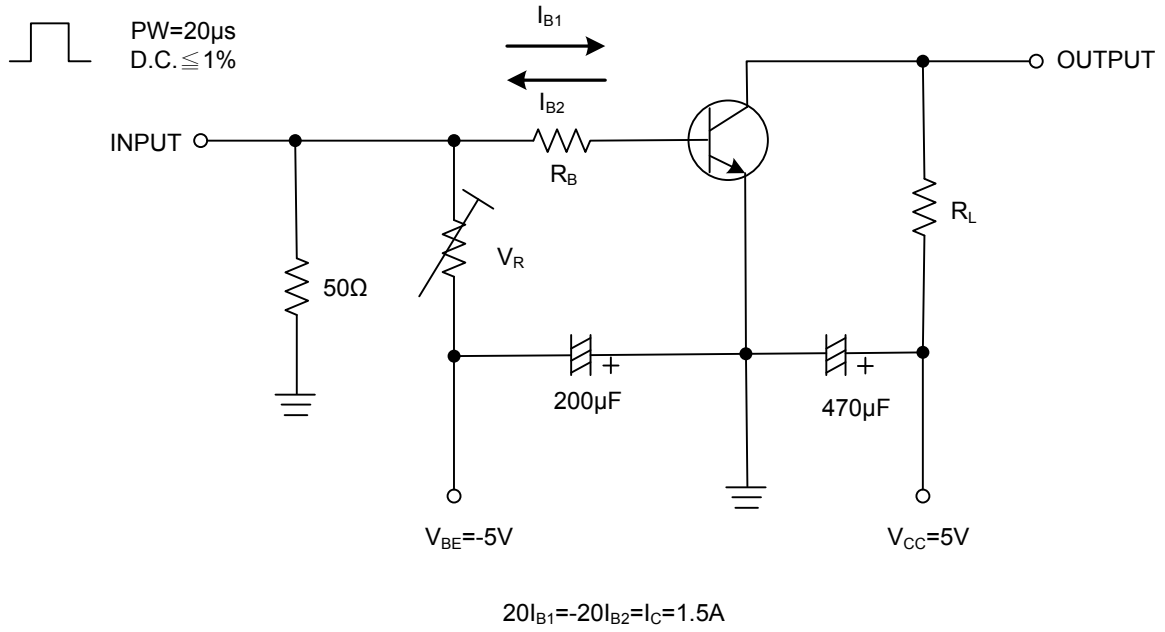
PARAMETER	SYMBOL	RATINGS	UNIT	
Collector-Base Voltage	V_{CBO}	15	V	
Collector-Emitter Voltage	V_{CEO}	10	V	
Emitter-Base Voltage	V_{EBO}	7	V	
Base Current	I_B	1	A	
Collector Current	DC	I_C	5	A
	Plused	I_{CP}	9	A
Collector Power Dissipation (Note 2)	P_C	550	mW	
Junction Temperature	T_J	+150	$^{\circ}\text{C}$	
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.

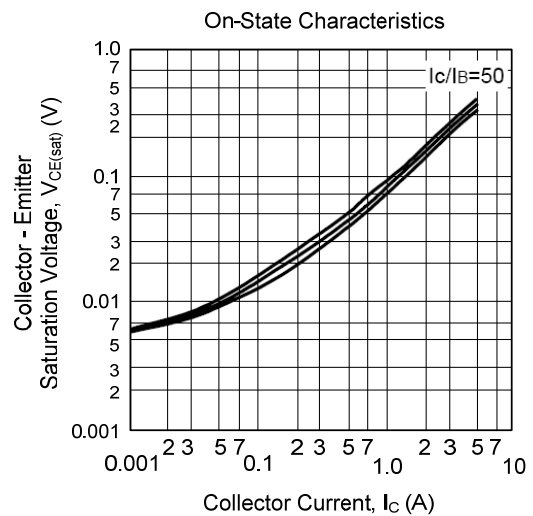
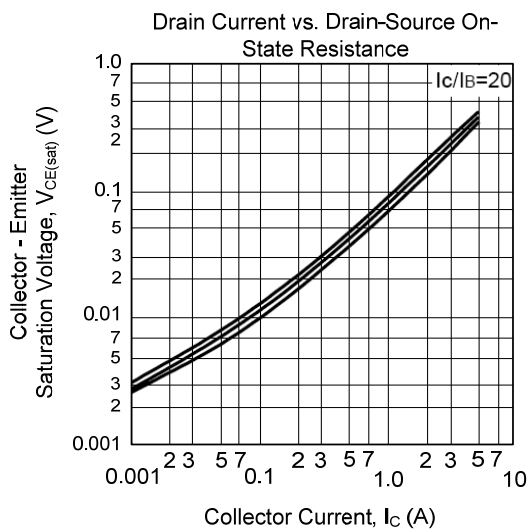
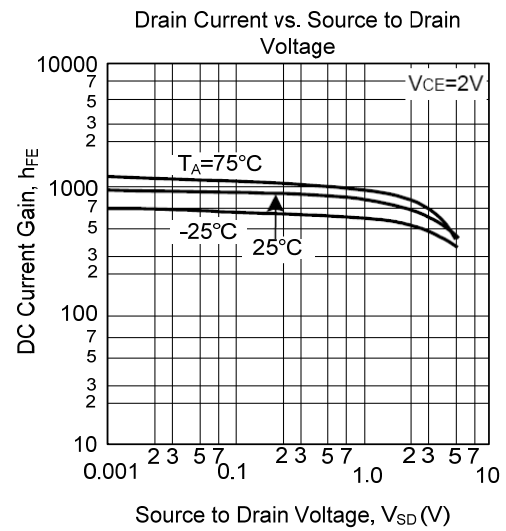
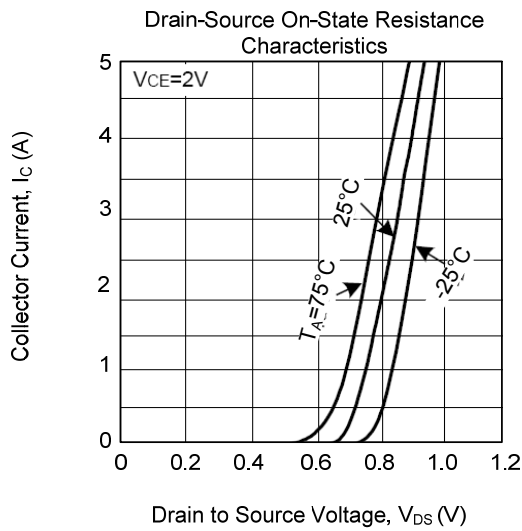
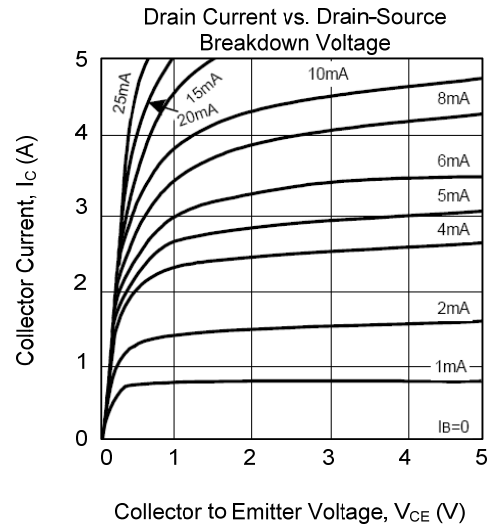
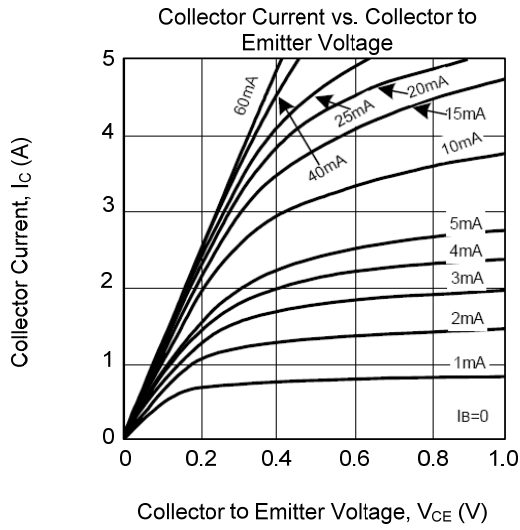
■ ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Base Breakdown Voltage	BV_{CBO}	$I_C=10\mu\text{A}$, $I_E=0$	15			V
Collector Emitter Breakdown Voltage	BV_{CEO}	$I_C=-1\text{mA}$, $R_{BE}=\infty$	10			V
Emitter Base Breakdown Voltage	BV_{EBO}	$I_E=10\mu\text{A}$, $I_C=0$	7			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=10\text{V}$, $I_E=0$			0.1	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=4\text{V}$, $I_C=0$			0.1	μA
DC Current Gain (Note)	h_{FE1}	$V_{CE}=2\text{V}$, $I_C=500\text{mA}$				
	h_{FE2}	$V_{CE}=2\text{V}$, $I_C=3\text{A}$				
Collector-Emitter Saturation Voltage (Note)	$V_{CE(SAT)1}$	$I_C=1.5\text{A}$, $I_B=30\text{mA}$		120	180	mV
	$V_{CE(SAT)2}$	$I_C=3\text{A}$, $I_B=60\text{mA}$		230	350	mV
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=1.5\text{A}$, $I_B=30\text{mA}$		0.85	1.2	V
Gain Bandwidth Product	f_T	$V_{CE}=2\text{V}$, $I_C=500\text{mA}$		350		MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10\text{V}$, $I_E=0$, $f=1\text{MHz}$		25		pF
Turn-ON Time	t_{ON}	See specified Test Circuit		30		ns
Storage Time	T_{STG}	See specified Test Circuit		210		ns
Fall Time	t_F	See specified Test Circuit		11		ns

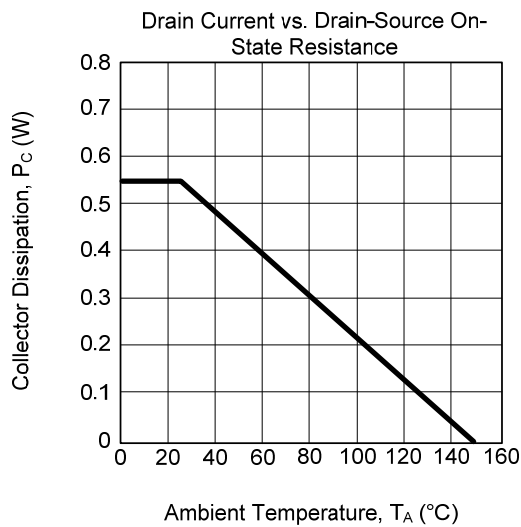
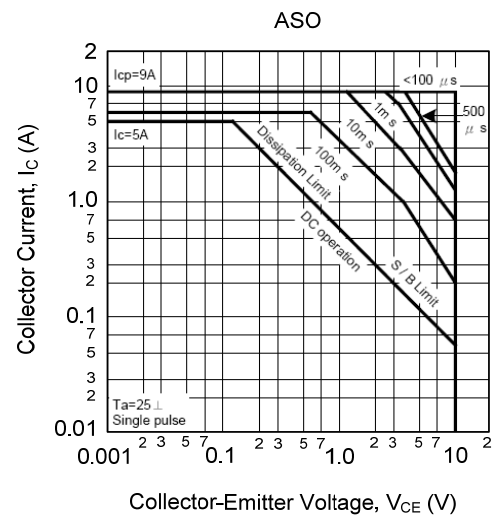
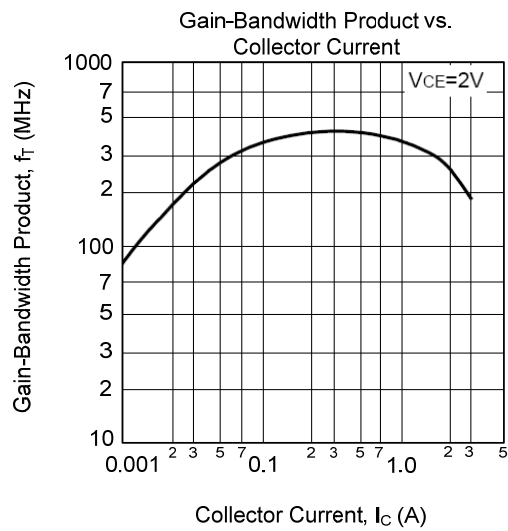
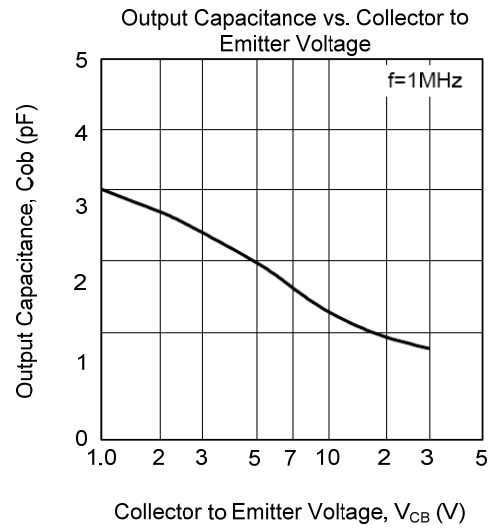
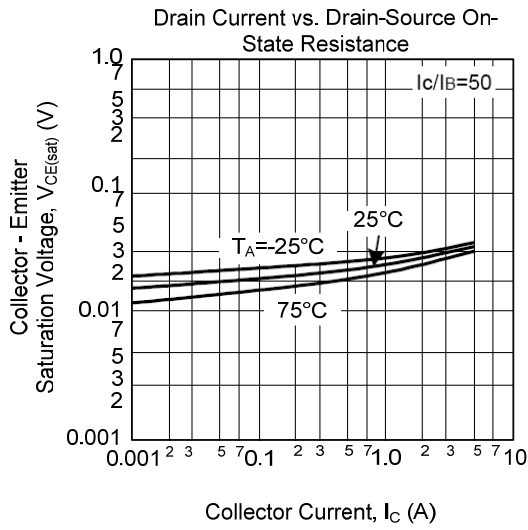
SWITCHING TIME TEST CIRCUIT



■ TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS (Cont.)



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