

# UTC2SC5889 NPN EPITAXIAL SILICON TRANSISTOR

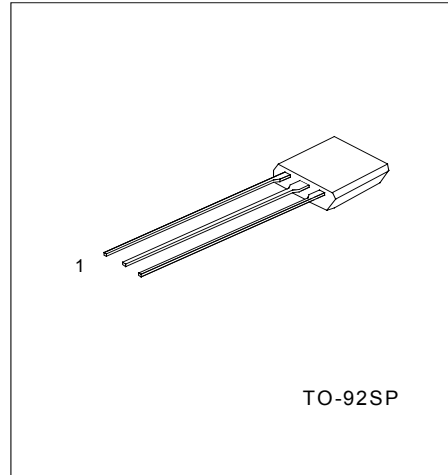
## DC/DC CONVERTER APPLICATIONS

### FEATURES

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

### APPLICATIONS

- \* relay drivers, lamp drivers, motor drivers, strobos.



TO-92SP

1.EMITTER 2.COLLECTOR 3.BASE

### ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V <sub>CB0</sub>	15	V
Collector-Emitter Voltage	V <sub>CE0</sub>	10	V
Emitter-Base Voltage	V <sub>EB0</sub>	7	V
Collector Current	I <sub>c</sub>	5	A
Collector Current (Pulse)	I <sub>cp</sub>	9	A
Base Current	I <sub>b</sub>	1	A
Collector Dissipation	P <sub>c</sub>	0.55	W
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 ~ +150	°C

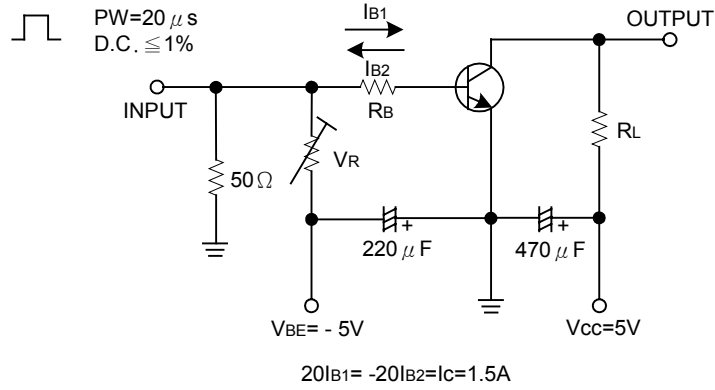
### ELECTRICAL CHARACTERISTICS (Ta=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>c</sub> =10 μ A, I <sub>E</sub> =0	15			V
Collector Emitter Breakdown Voltage	V <sub>(BR)CES</sub>	I <sub>c</sub> =1mA, R <sub>BE</sub> =∞	10			V
Emitter Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =10 μ A, I <sub>c</sub> =0	7			V
Collector Cutoff Current	I <sub>CBO</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0			0.1	μ A
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =4V, I <sub>c</sub> =0			0.1	μ A
DC Current Gain	H <sub>FE1</sub>	V <sub>CE</sub> =2V, I <sub>c</sub> =500mA	450		1200	
	H <sub>FE2</sub>	V <sub>CE</sub> =2V, I <sub>c</sub> =3A	200			
Collector-Emitter Saturation Voltage	V <sub>CE(sat)1</sub>	I <sub>c</sub> =1.5A, I <sub>b</sub> =30mA		120	180	mV
	V <sub>CE(sat)2</sub>	I <sub>c</sub> =3A, I <sub>b</sub> =60mA		230	350	mV
Base-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>c</sub> =1.5A, I <sub>b</sub> =30mA		0.85	1.2	V
Gain Bandwidth Product	f <sub>r</sub>	V <sub>CE</sub> =2V, I <sub>c</sub> =500mA		350		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V, f=1MHz		23		pF
Turn-ON Time	t <sub>on</sub>	See specified Test Circuit		30		ns
Storage Time	t <sub>stg</sub>	See specified Test Circuit		210		
Fall Time	t <sub>f</sub>	See specified Test Circuit		11		

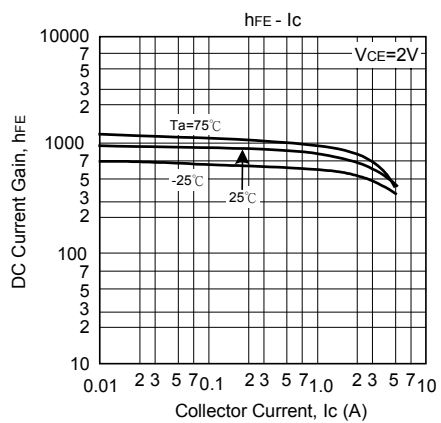
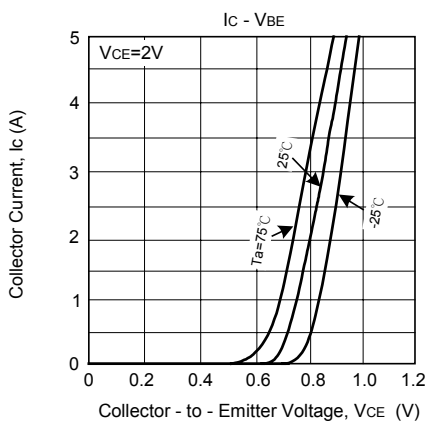
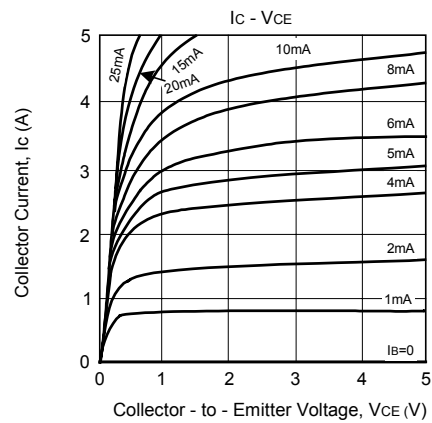
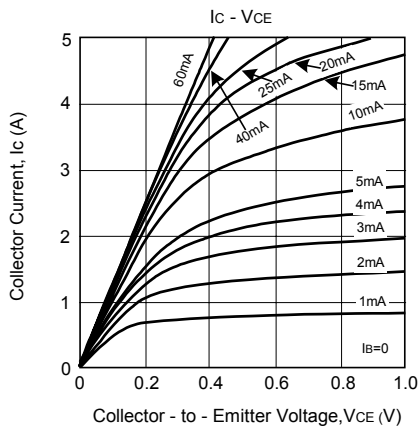
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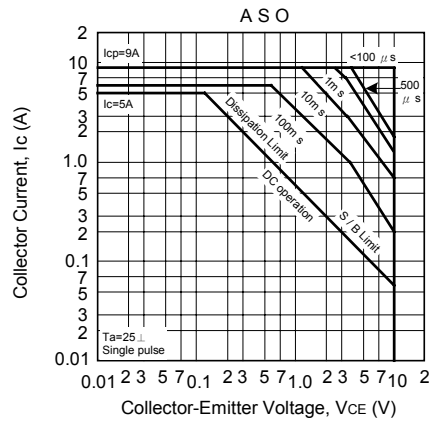
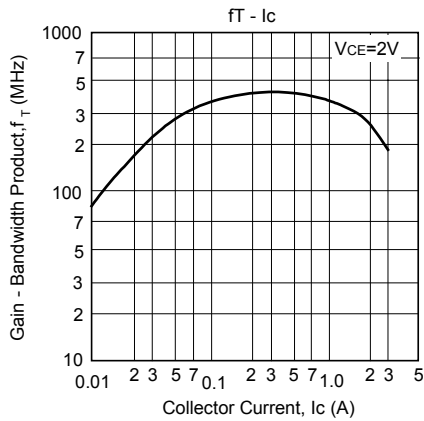
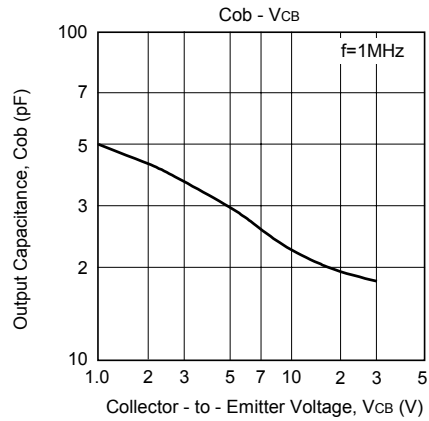
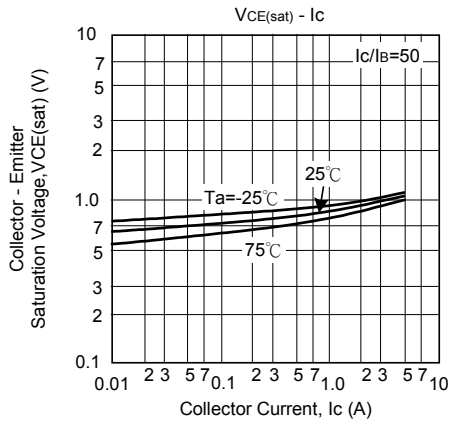
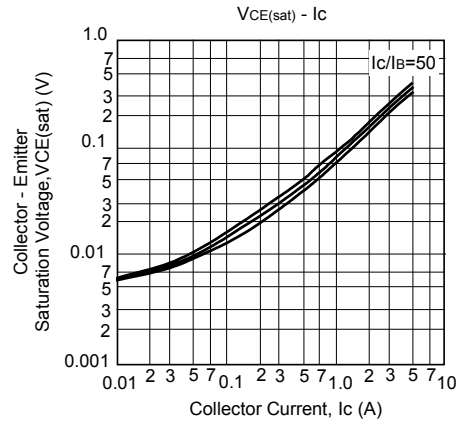
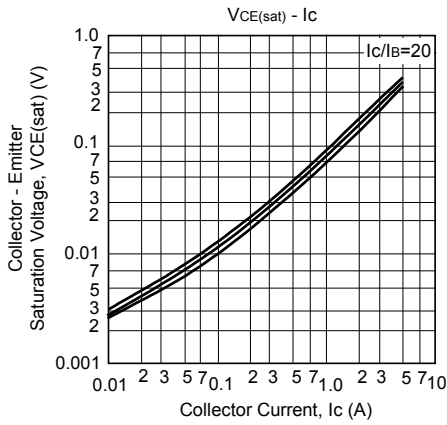
## SWITCHING TIME TEST CIRCUIT



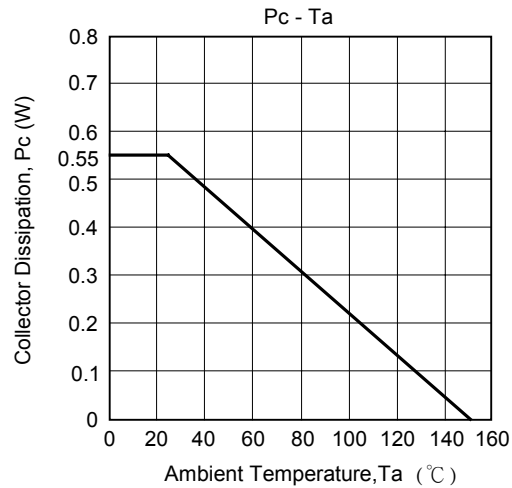
## ELECTRICAL CHARACTERISTICS CURVES



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