

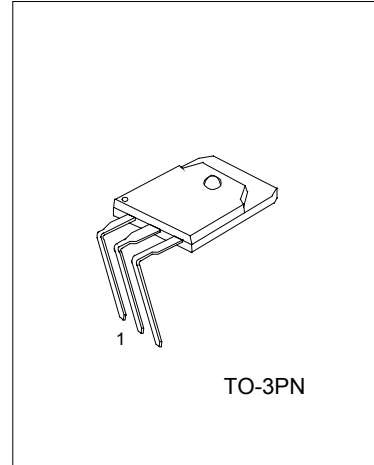
# UTC2SC3835

# NPN EPITAXIAL SILICON TRANSISTOR

## SWITCH NPN TRANSISTOR

### APPLICATION

\*Humidifier,DC-DC converter,and general purpose.



1: BASE 2:COLLECTOR 3: EMITTER

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

PARAMETER	SYMBOL	RATING	UNIT
Collector-Base Voltage	V <sub>CB0</sub>	200	V
Collector-Emitter Voltage	V <sub>CEO</sub>	120	V
Emitter-Base Voltage	V <sub>EB0</sub>	8	V
Base Current	I <sub>B</sub>	3	A
Collector Current	I <sub>C</sub>	7	A
Collector Current (PULSE)		14	A
Collector Power Dissipation( Tc=25°C )	P <sub>c</sub>	70	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 Emitter Breakdown Voltage	BV <sub>CEO</sub>	I <sub>C</sub> = 50mA	120			V
Collector Cut-Off Current	I <sub>CBO</sub>	V <sub>CB</sub> =200V, I <sub>E</sub> =0			100	μA
Emitter Cut-Off Current	I <sub>EB0</sub>	V <sub>EB</sub> = 8V, I <sub>C</sub> =0			100	μA
DC Current Transfer Ratio	h <sub>FE</sub>	V <sub>CE</sub> = 4V, I <sub>C</sub> = 3A	70		220	
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =3A ,I <sub>B</sub> =0.3A			0.5	V
Base-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =3A ,I <sub>B</sub> =0.3A			1.2	V
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> =12V, I <sub>E</sub> =-0.5mA		30		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0 A, f=1MHz		110		pF
Turn-on Time	t <sub>on</sub>	See specified Test Circuit			0.5	μs
Storage Time	t <sub>stg</sub>				3.0	μs
Fall Time	t <sub>f</sub>				0.5	μs

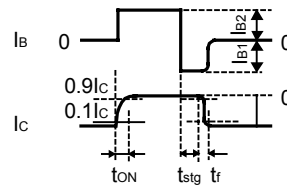
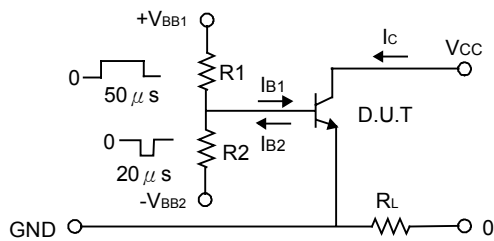
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## CLASSIFICATION of hFE

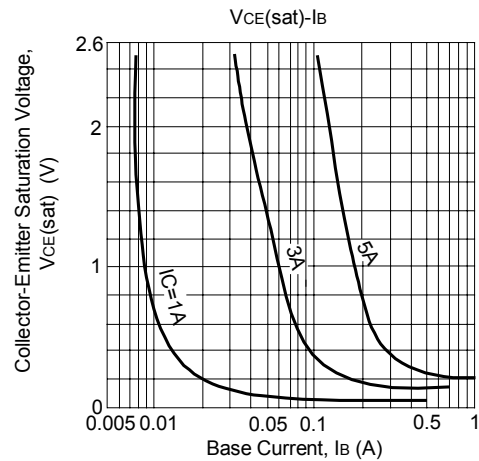
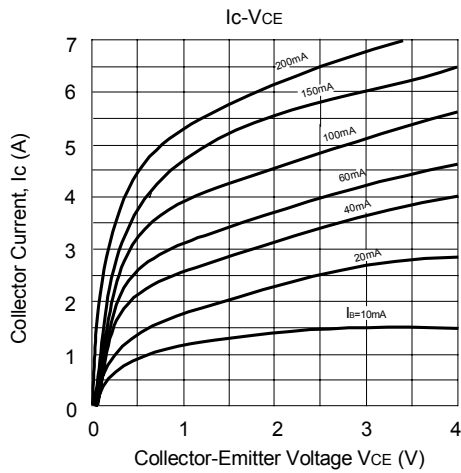
RANK	A	B	C
RANGE	70-130	120-170	160-220

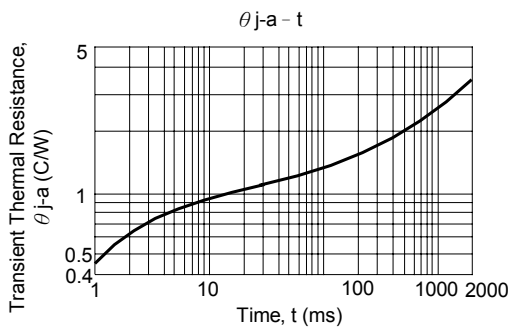
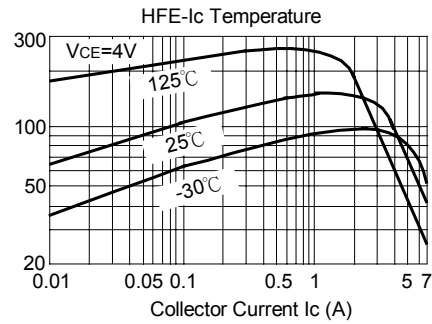
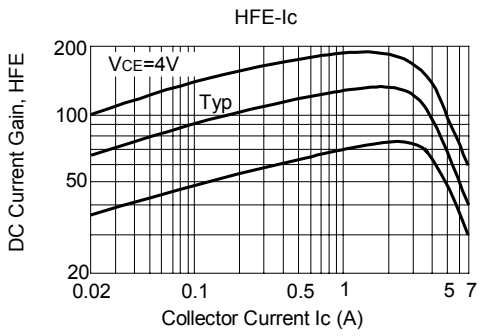
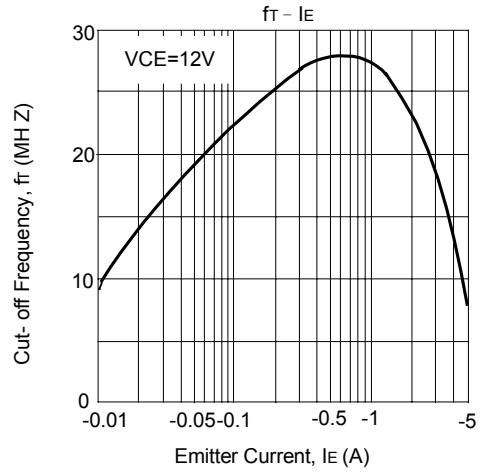
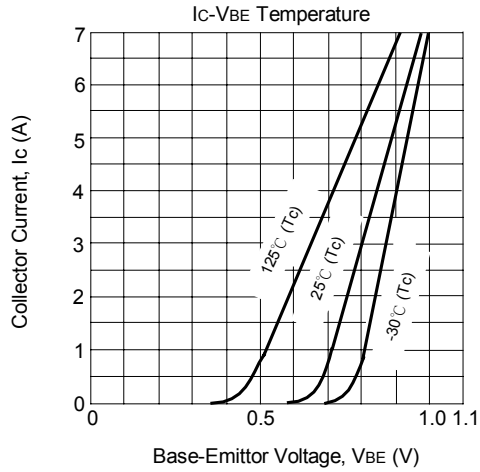
## Typical Switching Characteristics(Common Emitter)

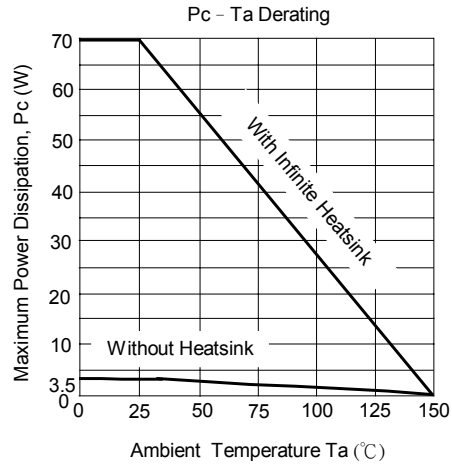
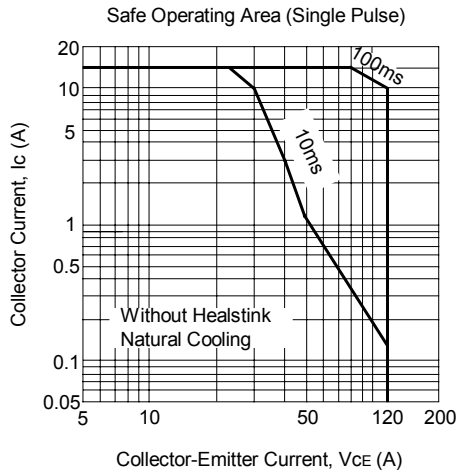
V <sub>CC</sub> (V)	R <sub>L</sub> (Ω)	I <sub>C</sub> (A)	V <sub>BB1</sub> (V)	V <sub>BB2</sub> (V)	I <sub>B1</sub> (A)	I <sub>B2</sub> (A)
50	16.7	3	10	-5	0.3	-0.6



## ELECTRICAL CHARACTERISTICS CURVES







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