

UTC2SC3669

NPN EPITAXIAL SILICON TRANSISTOR

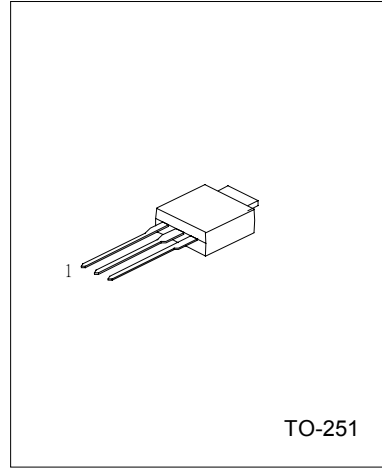
POWER AMPLIFIER APPLICATIONS
POWER SWITCHING APPLICATIONS

FEATURES

*Low saturation voltage

$$V_{CE(sat)} = 0.5V(\text{Max})$$

*High speed switching time: $t_{stg} = 1.0 \mu S(\text{Typ.})$



1:BASE 2:COLLECTOR 3:EMITTER

ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

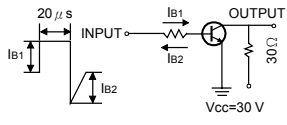
PARAMETER	SYMBOL	LIMITS	UNIT
Collector-Base Voltage	V _{CB0}	80	V
Collector-Emitter Voltage	V _{CEO}	80	V
Emitter-Base Voltage	V _{EB0}	5	V
Collector Current	I _c	2	A
Base Current	I _b	1	A
Collector Power Dissipation	P _c	1	W
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55 ~ +150	°C

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Emitter Breakdown Voltage	V _{(BR)CEO}	I _c = 10mA, I _B = 0	80			V
Collector Cut-Off Current	I _{CB0}	V _{CB} =80V, I _E = 0			1.0	μA
Emitter Cut-Off Current	I _{EB0}	V _{EB} = 5V, I _c =0			1.0	μA
DC Current Gain	h _{FE1}	V _{CE} =2V, I _c =0.5A	70		240	
	h _{FE2}	V _{CE} =2V, I _c =1.5A	40			
Collector-Emitter Saturation Voltage	V _{CE(sat)}	I _c =1A, I _B =0.05A		0.15	0.5	V
Base- Emitter Saturation Voltage	V _{BE(sat)}	I _c =1A, I _B =0.05A		0.9	1.2	V
Transition Frequency	f _t	V _{CE} =2V, I _c =0.5A		100		MHz
Collector Output Capacitance	C _{ob}	V _{CB} = 10V, I _E = 0, f=1MHz		30		pF

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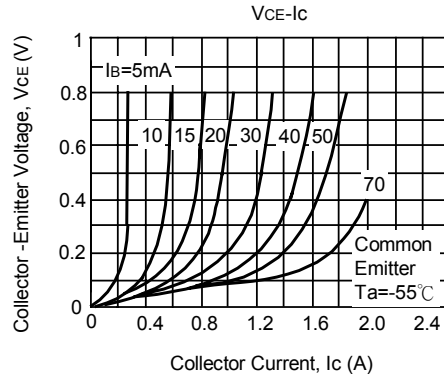
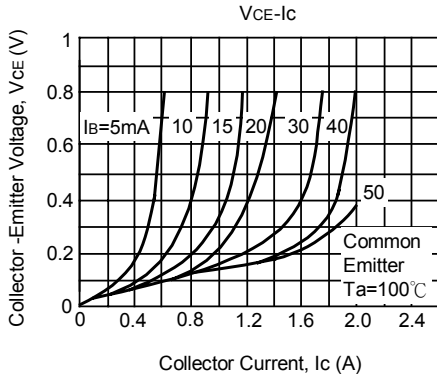
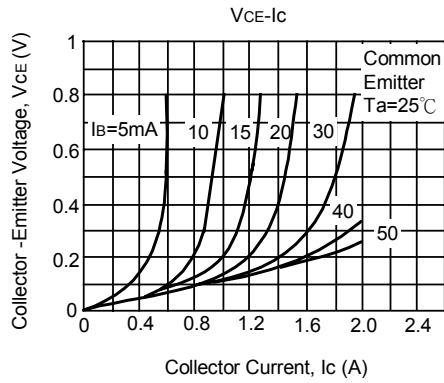
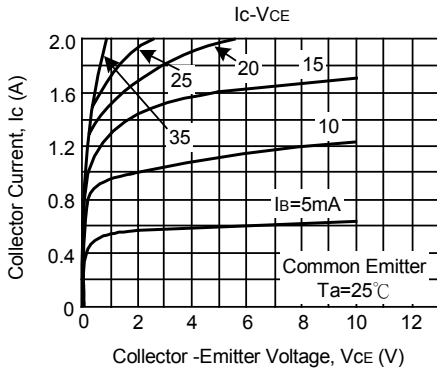
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PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Switching Time	Turn-on Time			0.2		μs
	Storage Time			1.0		
	Fall Time			0.2		
		$I_{B1} = -I_{B2} = 0.05A$ DUTY CYCLE $\leq 1\%$				

CLASSIFICATION OF hFE1

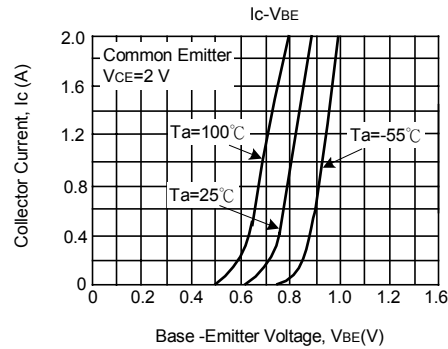
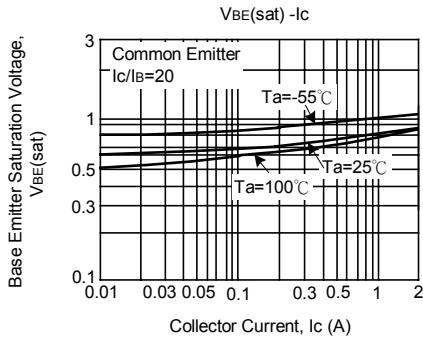
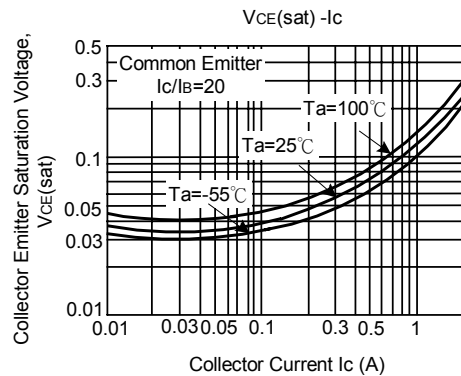
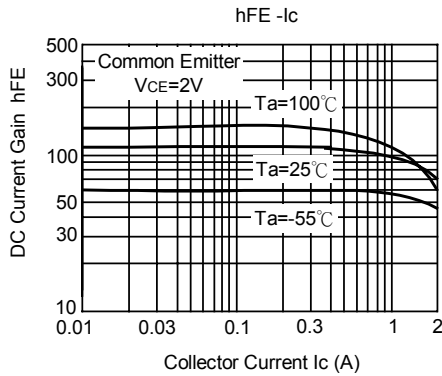
RANK	O	Y
RANGE	70-140	120-240

ELECTRICAL CHARACTERISTICS CURVES



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