

UTC2SC3669

NPN EPITAXIAL SILICON TRANSISTOR

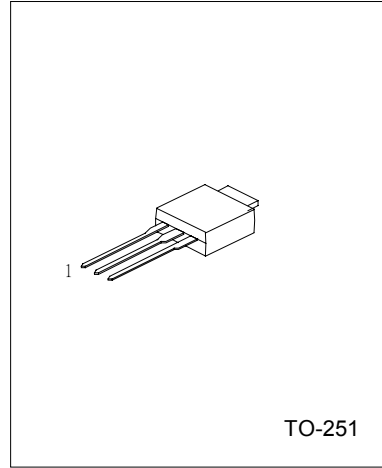
POWER AMPLIFIER APPLICATIONS  
POWER SWITCHING APPLICATIONS

FEATURES

\*Low saturation voltage

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

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



TO-251

1:BASE 2:COLLECTOR 3:EMITTER

ABSOLUTE MAXIMUM RATINGS (  $T_a = 25^\circ C$  )

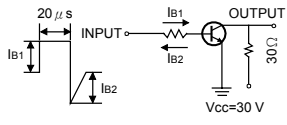
PARAMETER	SYMBOL	LIMITS	UNIT
Collector-Base Voltage	$V_{CB0}$	80	V
Collector-Emitter Voltage	$V_{CE0}$	80	V
Emitter-Base Voltage	$V_{EB0}$	5	V
Collector Current	$I_c$	2	A
Base Current	$I_b$	1	A
Collector Power Dissipation	$P_c$	1	W
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature	$T_{stg}$	-55 ~ +150	$^\circ C$

ELECTRICAL CHARACTERISTICS (  $T_a = 25^\circ C$ , 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	$I_{CBO}$	$V_{CB} = 80V, I_E = 0$			1.0	$\mu A$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB} = 5V, I_c = 0$			1.0	$\mu A$
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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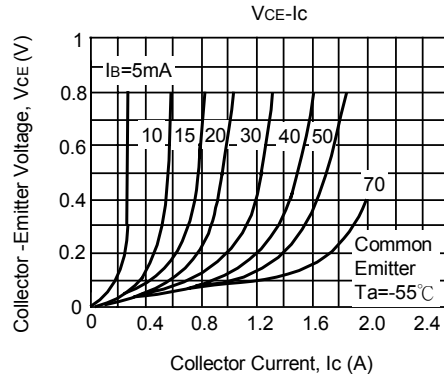
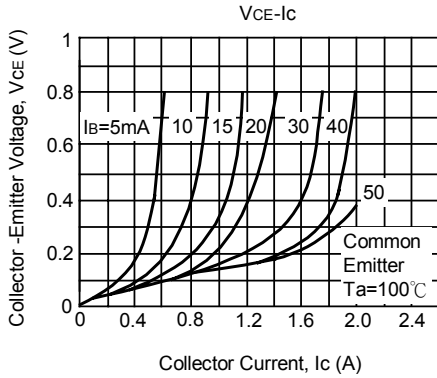
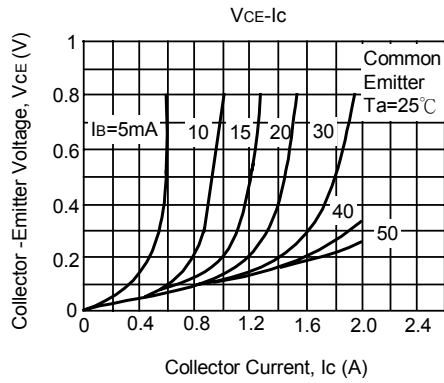
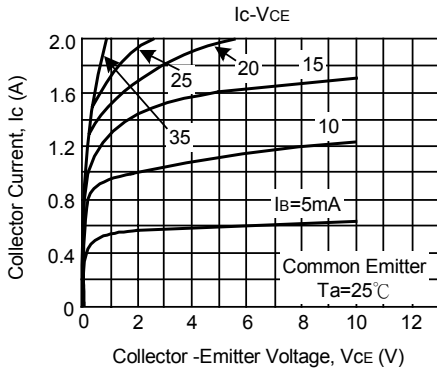
NPN EPITAXIAL SILICON TRANSISTOR

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

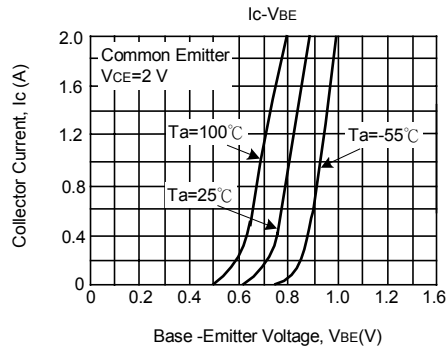
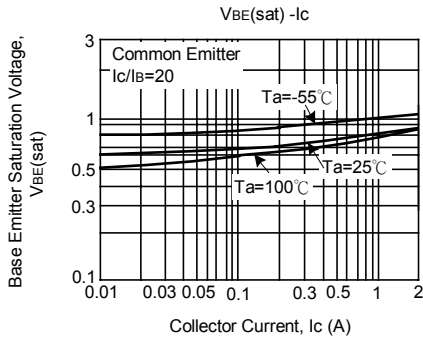
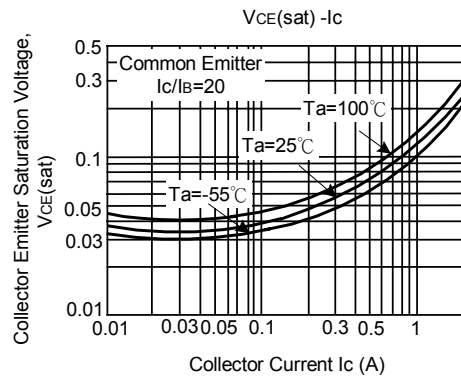
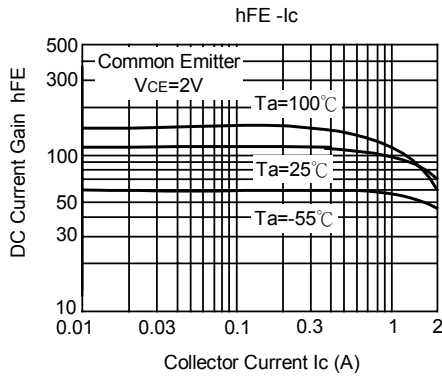
RANK	O	Y
RANGE	70-140	120-240

ELECTRICAL CHARACTERISTICS CURVES



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