

UTC2SA1020

PNP EPITAXIAL SILICON TRANSISTOR

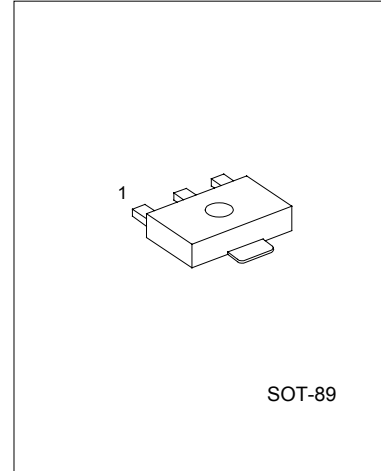
SILICON PNP EPITAXIAL TRANSISTOR

DESCRIPTION

The UTC 2SA1020 is designed for power amplifier and power switching applications.

FEATURES

- *Low collector saturation voltage:
 $V_{CE(sat)} = -0.5V(\text{max.})$ ($I_C = -1A$)
- *High speed switching time: $t_{stg} = 1.0\mu s(\text{Typ.})$
- *Complement to UTC 2SC2655



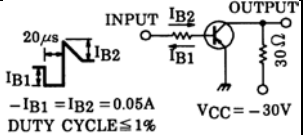
1:EMITTER 2:COLLECTOR 3:BASE

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

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-50	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-2	A
Collector Power Dissipation	P_C	0.5	W
Collector Power Dissipation	P_C^*	1	W
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature	T_{STG}	-55 ~ +150	$^\circ C$

* : Mounted on cermic substrate($250mm^2 \times 0.8t$)

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector cut-off current	I_{CBO}	$V_{CB} = -50V, I_E = 0$			-1.0	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5V, I_C = 0$			-1.0	μA
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -10mA, I_B = 0$	-50			V
DC Current Gain	h_{FE1} h_{FE2}	$V_{CE} = -2V, I_C = -0.5A$ $V_{CE} = -2V, I_C = -1.5A$	70 40		240	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = -1A, I_B = -0.05A$			-0.5	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = -1A, I_B = -0.05A$			-1.2	V
Transition frequency	f_T	$V_{CE} = -2V, I_C = -0.5A$		100		MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$		40		pF
Switching time	Turn-on time	 $20\mu s$ I_{B1} I_{B2} $-I_{B1} = I_{B2} = 0.05A$ DUTY CYCLE $\leq 1\%$ V _{CC} = -30V		0.1		μs
	Storage time			1.0		μs
	Fall time			0.1		μs

UTC

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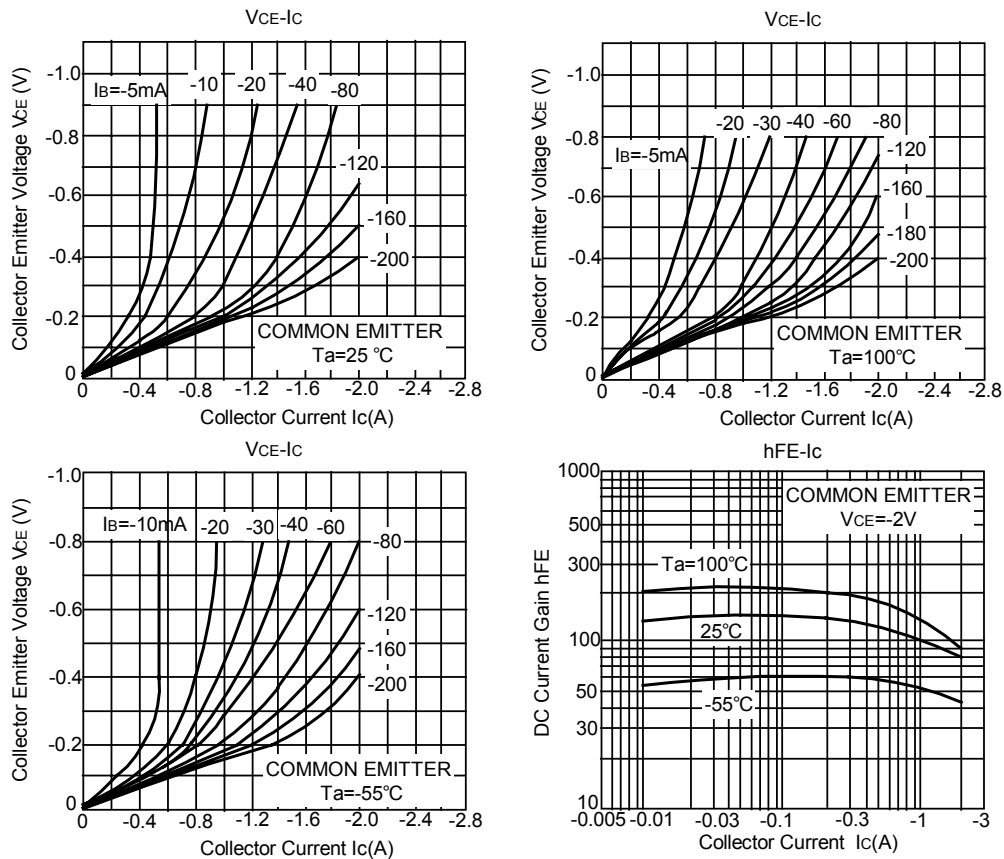
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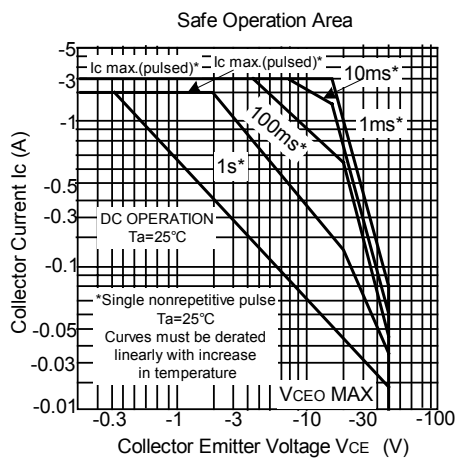
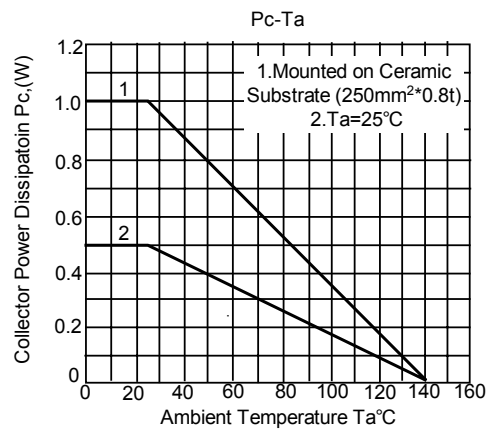
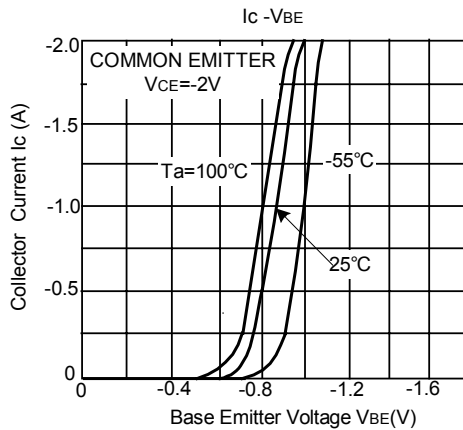
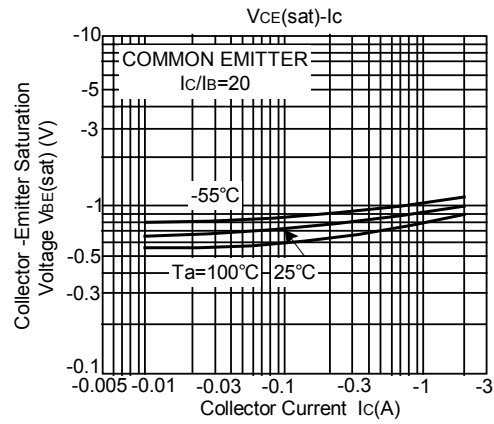
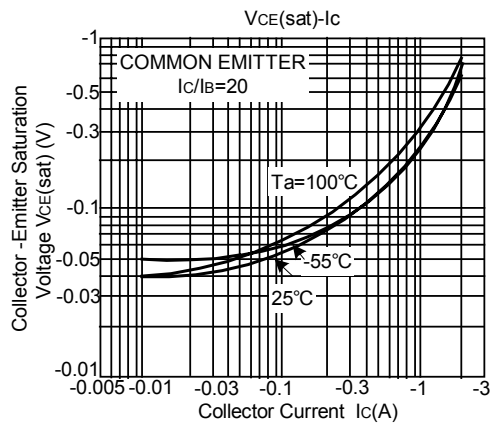
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CLASSIFICATION OF h_{FE1}

RANK	O	Y
RANGE	70 - 140	120 - 240

TYPICAL PERFORMANCE CHARACTERISTICS





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