

UTC2SA1020

PNP EPITAXIAL SILICON TRANSISTOR

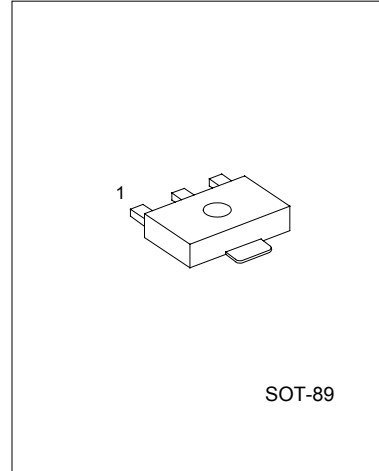
SILICON PNP EPITAXIAL TRANSISTOR

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



SOT-89

1:EMITTER 2:COLLECTOR 3:BASE

ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CB0}	-50	V
Collector-Emitter Voltage	V_{CEO}	-50	V
Emitter-Base Voltage	V_{EB0}	-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	°C
Storage Temperature	T_{STG}	-55 ~ +150	°C

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

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT	
Collector cut-off current	I_{CB0}	$V_{CB} = -50V, I_E = 0$			-1.0	μA	
Emitter cut-off current	I_{EB0}	$V_{EB} = -5V, I_C = 0$			-1.0	μA	
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -10mA, I_B = 0$	-50			V	
DC Current Gain	h_{FE1}	$V_{CE} = -2V, I_C = -0.5A$	70		240		
	h_{FE2}	$V_{CE} = -2V, I_C = -1.5A$	40				
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			0.1		μs	
	Storage time		t_{stg}		1.0		μs
	Fall time		t_f		0.1		μs

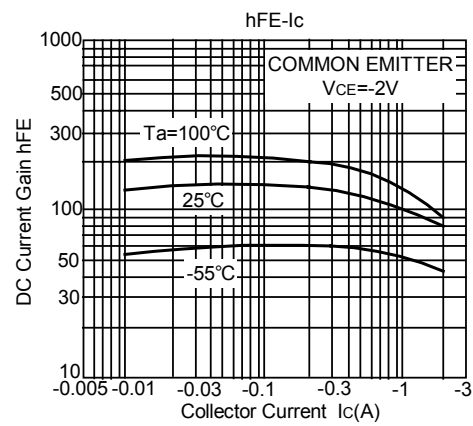
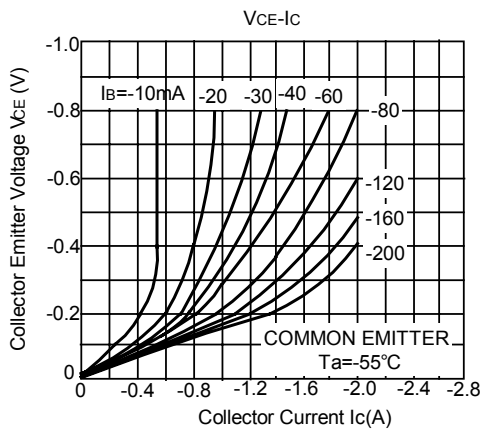
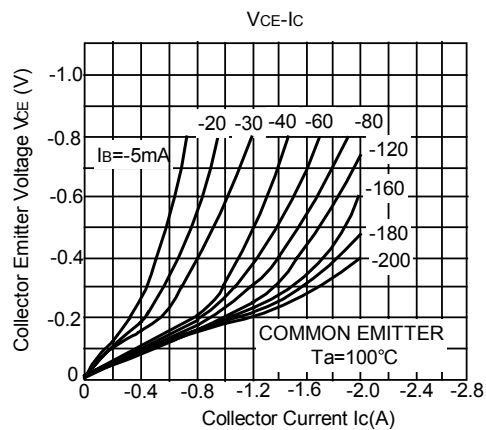
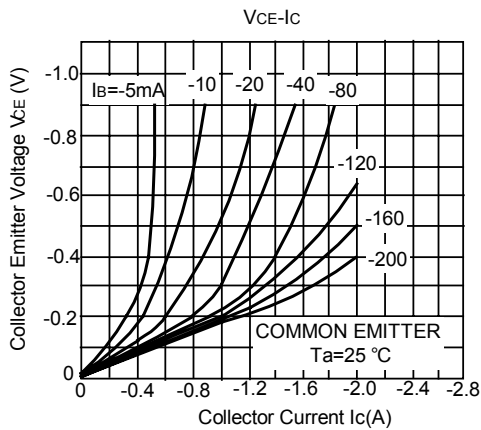
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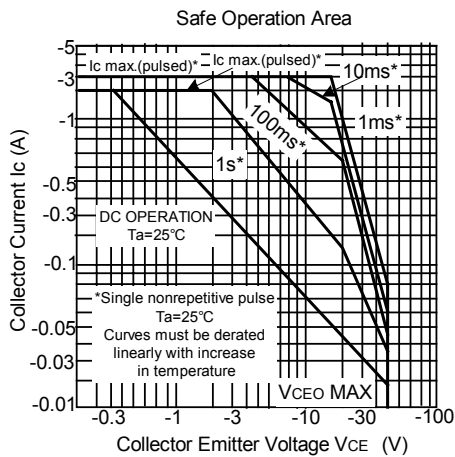
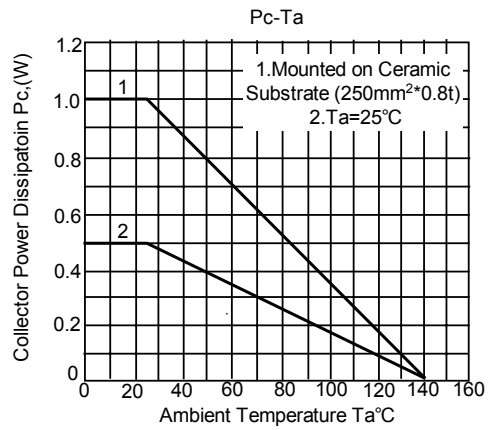
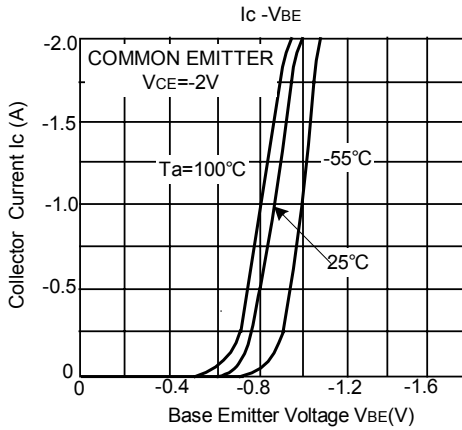
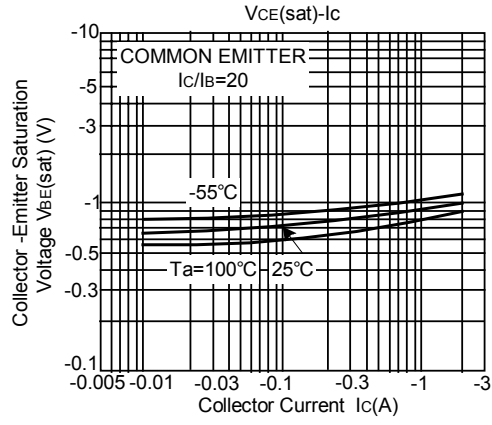
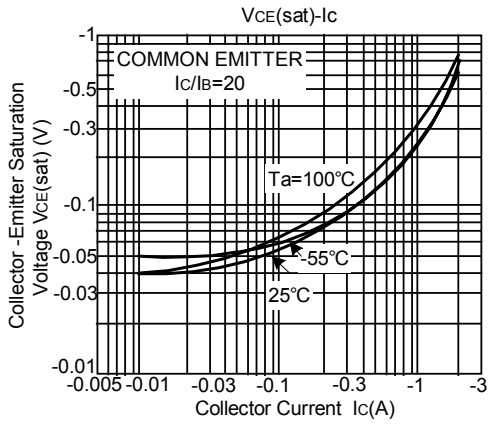
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CLASSIFICATION OF h_{FE1}

RANK	O	Y
RANGE	70 - 140	120 - 240

TYPICAL PERFORMANCE CHARACTERISTICS





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