

UTC2SA1020

PNP EPITAXIAL SILICON TRANSISTOR

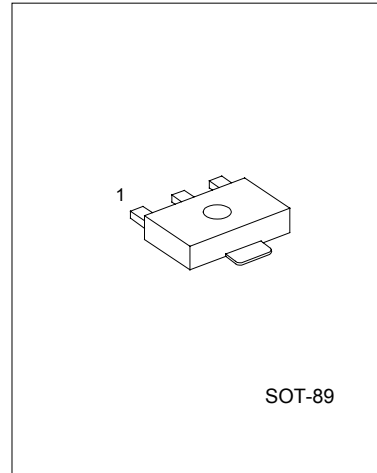
SILICON PNP EPITAXIAL TRANSISTOR

DESCRIPTION

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

FEATURES

- *Low collector saturation voltage:
VCE(sat)=-0.5V(max.) (IC=-1A)
- *High speed switching time: tstg=1.0μs(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(250mm² × 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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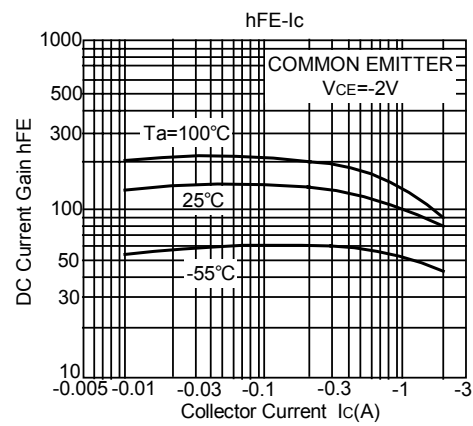
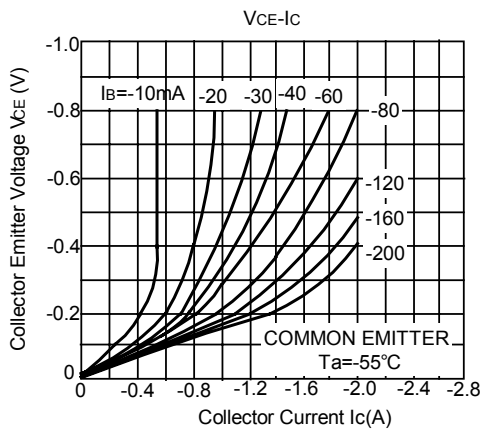
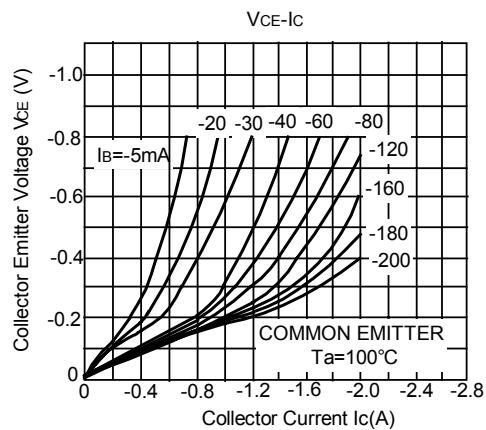
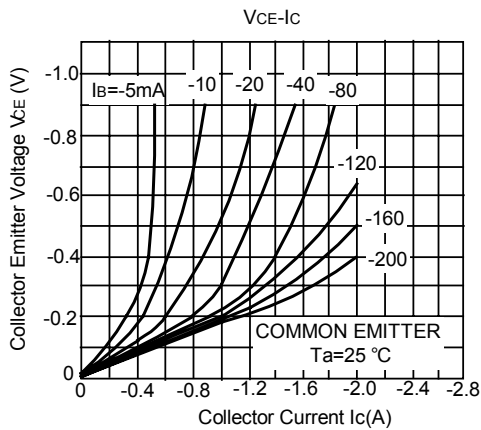
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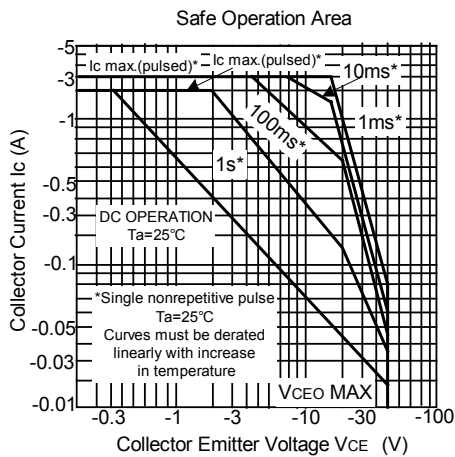
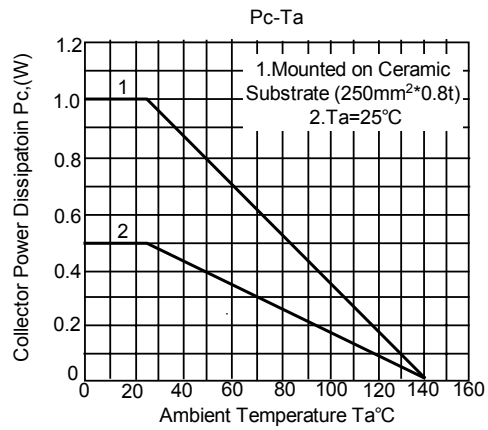
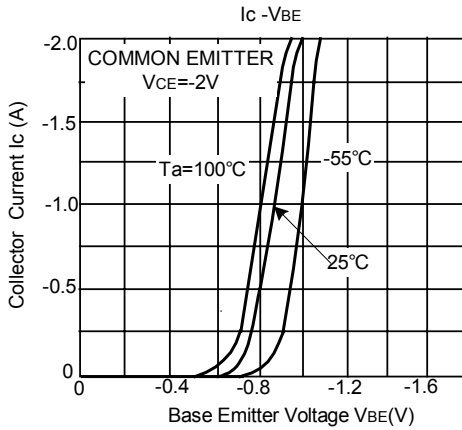
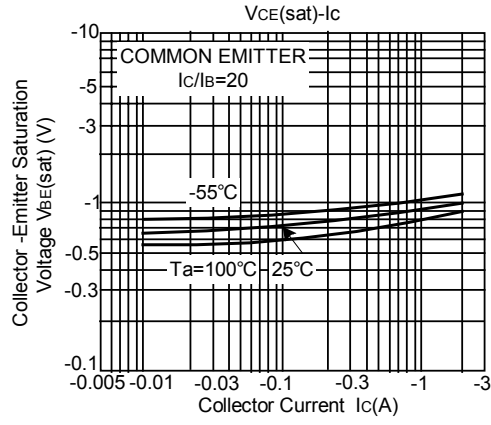
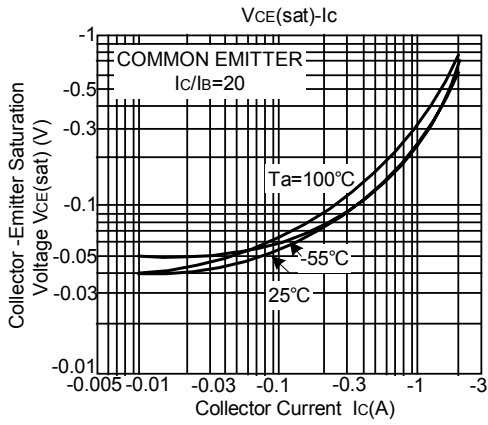
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CLASSIFICATION OF h_{FE1}

| RANK | O | Y |
|-------|----------|-----------|
| RANGE | 70 - 140 | 120 - 240 |

TYPICAL PERFORMANCE CHARACTERISTICS





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