

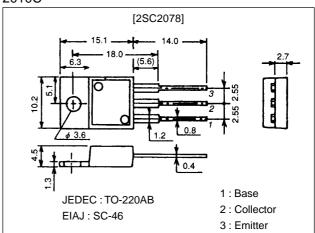


27MHz RF Power Amplifier Applications

Package Dimensions

unit:mm

2010C



Specifications

Absolute Maximum Ratings at Ta = 25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|------------------|-----------------------|-------------|------|
| Collector-to-Base Voltage | V _{CBO} | | 80 | V |
| Collector-to-Emitter Voltage | VCER | R _{BE} =150Ω | 75 | V |
| Emitter-to-Base Voltage | V _{EBO} | | 5 | V |
| Collector Current | IC | | 3 | Α |
| Collector Current (Pulse) | ICP | | 5 | Α |
| Collector Dissipation | PC | | 1.2 | W |
| | | Tc=50°C | 10 | W |
| Junction Temperature | Tj | | 150 | °C |
| Storage Temperature | Tstg | | -55 to +150 | °C |

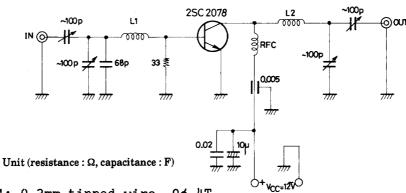
Electrical Characteristics at Ta = 25°C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|----------------------|--|---------|------|------|-------|
| | | | min | typ | max | Oille |
| Collector Cutoff Current | I _{CBO} | V _{CB} =40V, I _E =0 | | | 10 | μA |
| Emitter Cutoff Current | I _{EBO} | $V_{EB}=4V$, $I_{C}=0$ | | | 10 | μA |
| DC Current Gain | hFE | V _{CE} =5V, I _C =0.5A | 25* | | 200* | |
| Gain-Bandwidth Product | fT | V _{CE} =10V, I _C =0.1A | 100 | 150 | | MHz |
| Output Capacitance | C _{ob} | V _{CB} =10V, f=1MHz | | 45 | 60 | pF |
| Collector-to-Emitter Saturation Voltage | V _{CE(sat)} | I _C =1A, I _B =0.1A | | 0.15 | 0.6 | V |
| Base-to-Emitter Saturation Voltage | V _{BE(sat)} | I _C =1A, I _B =0.1A | | 0.9 | 1.2 | V |

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| Parameter | Symbol | Conditions | Ratings | | | Unit | | |
|---|----------|--|---------|-----|-----|--------|--|--|
| | | | min | typ | max | Office | | |
| Collector-to-Base Saturation Voltage | V(BR)CBO | I _C =100μA, I _B =0 | 80 | | | V | | |
| Collector-to-Emitter Saturation Voltage | V(BR)CER | I_C =1mA, R_{BE} =150 Ω | 75 | | | V | | |
| Emitter-to-Base Saturation Voltage | V(BR)EBO | I _E =100μA, I _C =0 | 5 | | | V | | |
| [At specified test circuit] | | | | | | | | |
| Output Power | PO | V _{CC} =12V, f=27MHz, Pi=0.2W | 4.0 | | | W | | |
| Power Efficiency | η | | 60 | | | % | | |

27MHz Output Power Test Circuit



Coil data L1: 0.3mm tinned wire, 9ø 4T

L2: 0.6mm tinned wire, 9ø 4T

RFC 2.2µH

I_C - V_{CE}

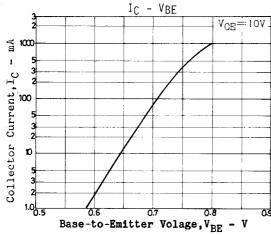
V 1.6

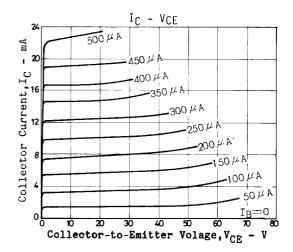
Only 20mA

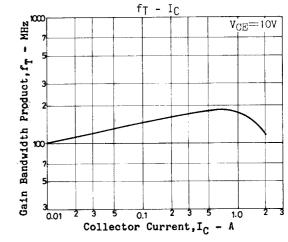
10mA

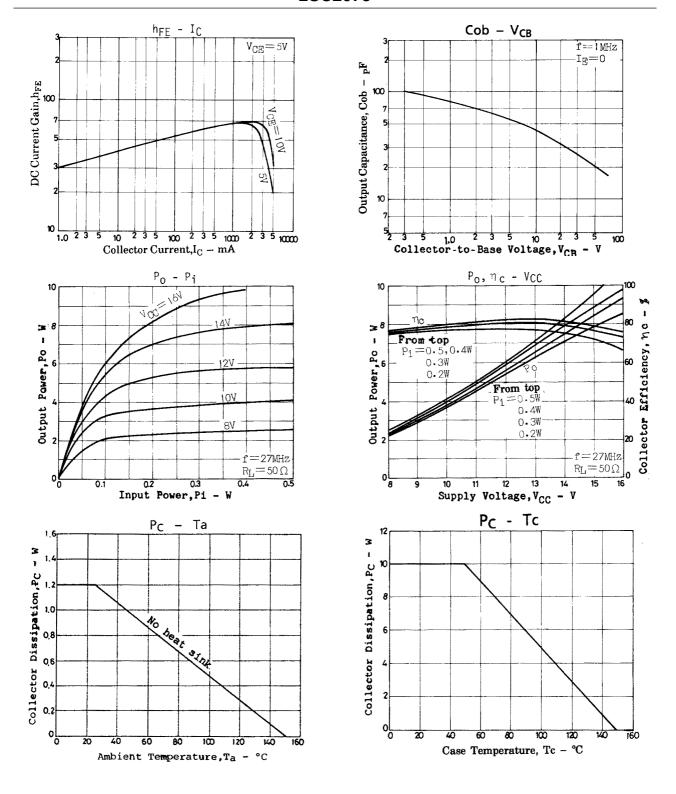
10mA

Collector-to-Emitter Volage, V_{CE} - V









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