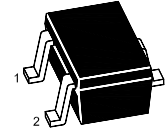


MMBTSC4098W

NPN Silicon Epitaxial Planar Transistor

for AM/FM amplifier and local oscillator of FM/VHF tuner applications.



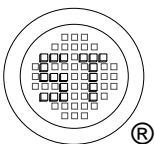
1.Base 2.Emitter 3.Collector
SOT-323 Plastic Package

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

| Parameter | Symbol | Value | Unit |
|---------------------------|------------------|---------------|------------------|
| Collector Base Voltage | V_{CBO} | 40 | V |
| Collector Emitter Voltage | V_{CEO} | 25 | V |
| Emitter Base Voltage | V_{EBO} | 5 | V |
| Collector Current | I_{C} | 50 | mA |
| Power Dissipation | P_{tot} | 200 | mW |
| Junction Temperature | T_{j} | 150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | - 55 to + 150 | $^\circ\text{C}$ |

Characteristics at $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Min. | Typ. | Max. | Unit |
|---|-----------------------------|------|------|------|---------------|
| DC Current Gain at $V_{\text{CE}} = 6\text{ V}$, $I_{\text{C}} = 1\text{ mA}$ | h_{FE} | 82 | - | 180 | - |
| Collector Cutoff Current at $V_{\text{CB}} = 24\text{ V}$ | I_{CBO} | - | - | 0.5 | μA |
| Emitter Cutoff Current at $V_{\text{EB}} = 3\text{ V}$ | I_{EBO} | - | - | 0.5 | μA |
| Collector Base Breakdown Voltage at $I_{\text{C}} = 50\text{ }\mu\text{A}$ | $V_{(\text{BR})\text{CBO}}$ | 40 | - | - | V |
| Collector Emitter Breakdown Voltage at $I_{\text{C}} = 1\text{ mA}$ | $V_{(\text{BR})\text{CEO}}$ | 25 | - | - | V |
| Emitter Base Breakdown Voltage at $I_{\text{E}} = 50\text{ }\mu\text{A}$ | $V_{(\text{BR})\text{EBO}}$ | 5 | - | - | V |
| Collector Emitter Saturation Voltage at $I_{\text{C}} = 10\text{ mA}$, $I_{\text{B}} = 1\text{ mA}$ | $V_{\text{CE}(\text{sat})}$ | - | - | 0.3 | V |
| Collector Base Capacitance at $V_{\text{CB}} = 6\text{ V}$, $f = 1\text{ MHz}$ | C_{ob} | - | 1.3 | 2.2 | pF |
| Gain Bandwidth Product at $V_{\text{CE}} = 6\text{ V}$, $I_{\text{E}} = 1\text{ mA}$, $f = 100\text{ MHz}$ | f_{T} | 150 | 300 | - | MHz |



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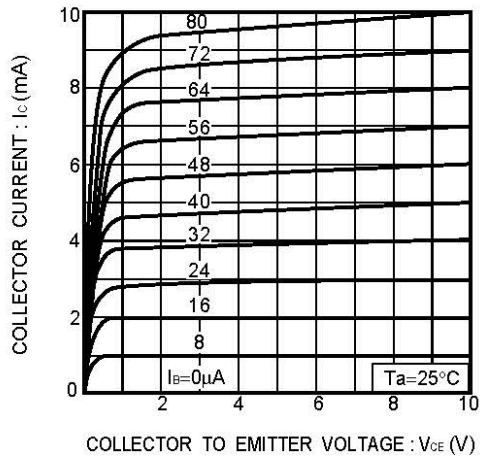


Fig.1 Ground emitter output characteristics

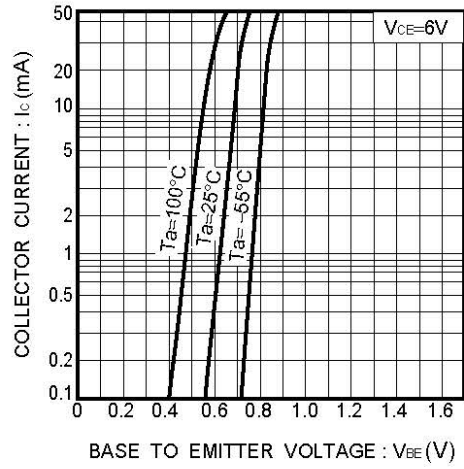


Fig.2 Ground emitter propagation characteristics

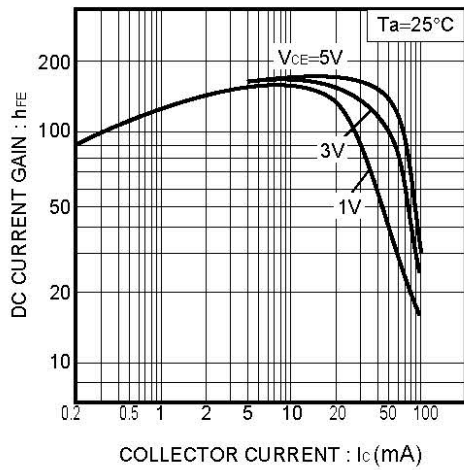


Fig.3 DC current gain

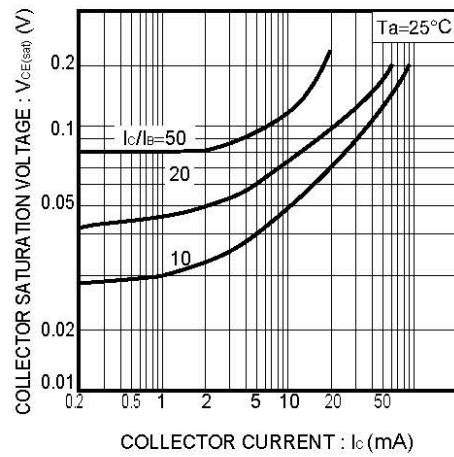
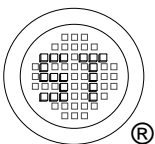


Fig.4 Collector-emitter saturation voltage



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