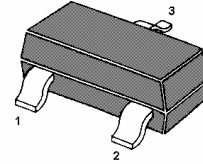


MMBTSC1621

NPN Silicon Epitaxial Planar Switching Transistor

SOT-23

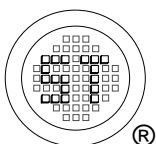


1.BASE 2.EMITTER 3.COLLECTOR

SOT-23 Plastic Package

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

| | Symbol | Value | Unit |
|--|-------------|-------------|------------------|
| Collector Base Voltage | V_{CBO} | 40 | V |
| Collector Emitter Voltage | V_{CES} | 40 | V |
| Collector Emitter Voltage | V_{CEO} | 15 | V |
| Emitter Base Voltage | V_{EBO} | 4.5 | V |
| Collector Current | I_C | 500 | mA |
| Power Dissipation | P_{tot} | 200 | mW |
| Thermal Resistance Form junction to ambient in free air | R_{thj-a} | 500 | K/W |
| Junction Temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_S | -55 to +150 | $^\circ\text{C}$ |



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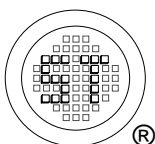


Dated : 20/10/2005

MMBTSC1621

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

| | Symbol | Min. | Typ. | Max. | Unit |
|---|----------------------------------|----------------|-------------|---------------|------------------------------|
| DC Current Gain at $V_{CE}=1\text{V}$, $I_C=10\text{mA}$ at $V_{CE}=1\text{V}$, $I_C=10\text{mA}$, $T_a=-55\text{ }^{\circ}\text{C}$ at $V_{CE}=2\text{V}$, $I_C=100\text{mA}$ | h_{FE} h_{FE} h_{FE} | 40 20 20 | - - - | 120 - - | - - - |
| Small Signal Current Gain at $V_{CE}=10\text{V}$, $I_C=1\text{mA}$, $f=100\text{MHz}$ | h_{fe} | 5 | - | - | - |
| Collector Cutoff Current at $V_{CB}=20\text{V}$ at $V_{CB}=20\text{V}$, $T_j=125\text{ }^{\circ}\text{C}$ | I_{CBO} | - - | - - | 0.4 30 | μA mA |
| Collector Saturation Voltage at $I_C=10\text{mA}$, $I_B=1\text{mA}$ | $V_{CE(sat)}$ | - | - | 0.25 | V |
| Base Saturation Voltage at $I_C=10\text{mA}$, $I_B=1\text{mA}$ | $V_{BE(sat)}$ | 0.7 | - | 0.85 | V |
| Collector Emitter Breakdown Voltage at $I_C=10\text{mA}$ | $V_{(BR)CEO}$ | 15 | - | - | V |
| Collector Emitter Breakdown Voltage at $I_C=10\text{mA}$ | $V_{(BR)CES}$ | 40 | - | - | V |
| Collector Base Breakdown Voltage at $I_C=10\text{mA}$ | $V_{(BR)CBO}$ | 40 | - | - | V |
| Emitter Base Breakdown Voltage at $I_E=10\text{mA}$ | $V_{(BR)EBO}$ | 4.5 | - | - | V |
| Output Capacitance at $V_{CB}=5\text{V}$, $f=1\text{MHz}$ | C_{ob} | - | - | 4 | pF |
| Storage Time at $I_{Con}=I_{Bon}=-I_{Boff}=10\text{mA}$ | t_s | - | 5 | 13 | ns |
| Turn-on Time at $I_C=10\text{mA}$, $I_{Bon}=3\text{mA}$, $V_{CC}=3\text{V}$ | t_{on} | - | 8 | 12 | ns |
| Turn-off Time at $I_C=10\text{mA}$, $I_{Bon}=3\text{mA}$, $I_{Boff}=1.5\text{mA}$, $V_{CC}=3\text{V}$ | t_{off} | - | 10 | 18 | ns |



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ISO/TS 16949 : 2002
Certificate No. 05103



ISO 14001:2004
Certificate No. 7116



ISO 9001:2000
Certificate No. 0506098

Dated : 20/10/2005