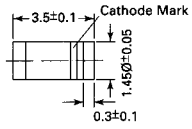
# BB621, BB622

**Tuner Diodes**
Silicon Epitaxial Planar Capacitance Diodes in MiniMelf case especially suited for automatic insertion with very wide effective capacitance variation for tuning the whole range of VHF or UHF television bands.

These diodes are available as singles or as matched sets of two or more units according to the tracking condition described below.

The diodes are delivered taped.
Details see "Taping".




Glass case MiniMELF

Weight approx. 0.05g
Dimensions in mm

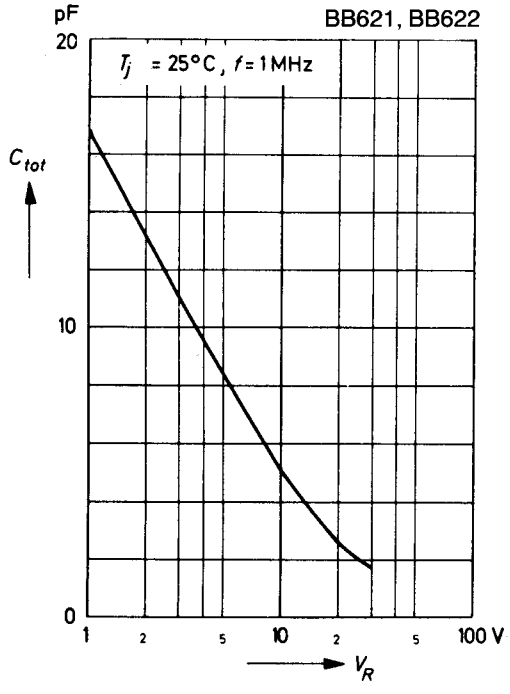
**Absolute Maximum Ratings** ($T_a$= 25 °C)

| | Symbol | Value | Unit |
|---|---|---|---|
| Reverse Voltage | $V_R$ | 32 | V |
| Junction Temperature | $T_j$ | 125 | °C |
| Storage Temperature Range | $T_S$ | -55 to + 150 | °C |

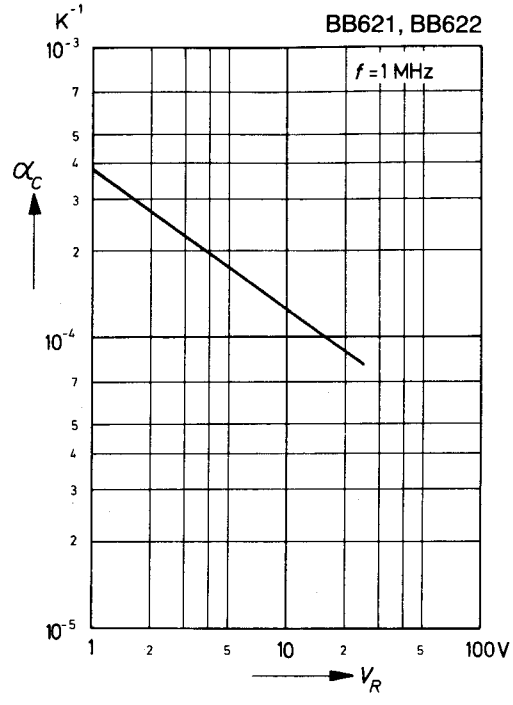
**Characteristics** at $T_{amb}$ =25 °C

| | | Symbol | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| Capacitance | | | | | | |
| at $V_R$ = 1 V | | $C_{tot}$ | - | 17 | - | pF |
| at $V_R$ = 3 V | | $C_{tot}$ | - | 11 | - | pF |
| at $V_R$ = 28 V | **BB621** | $C_{tot}$ | 1.8 | - | 2.2 | pF |
| | **BB622** | $C_{tot}$ | 1.8 | - | 2.5 | pF |
| Effective Capacitance Ratio | | | | | | |
| at $V_R$ = 1 to 28 V | **BB621** | $\frac{C_{tot}(1V)}{C_{tot}(28V)}$ | 8 | - | 9.5 | - |
| | **BB622** | $\frac{C_{tot}(1V)}{C_{tot}(28V)}$ | 7.3 | - | 9.5 | - |
| Series Resistance | | | | | | |
| at f = 470 MHz, $C_{tot}$ = 9 pF | **BA621** | $r_s$ | - | 0.55 | 0.7 | Ω |
| | **BA622** | $r_s$ | - | 0.8 | 1 | Ω |
| Cutoff Frequency for Q = 1 | | | | | | |
| at $V_R$ = 3 V | **BA621** | $f_{Q1}$ | - | 24 | - | GHz |
| | **BA622** | $f_{Q1}$ | - | 16 | - | GHz |
| Series Resonance Frequency at $V_R$ = 25 V | | $f_0$ | - | 2.5 | - | GHz |
| Series Inductance | | $L_s$ | - | 2 | - | nH |
| Leakage Current at $V_R$ = 30 V | | $I_R$ | - | - | 30 | nA |
| Reverse Breakdown Voltage at $I_R$ = 10 µA | | $V_{(BR)R}$ | 32 | - | - | V |
| For any two diodes of a matched group the following tracking condition applies: In the reverse bias voltage range of $V_R$ = 0.5 V to $V_R$ = 28 V the maximum capacitance deviation is 2.5 %. | | | | | | |

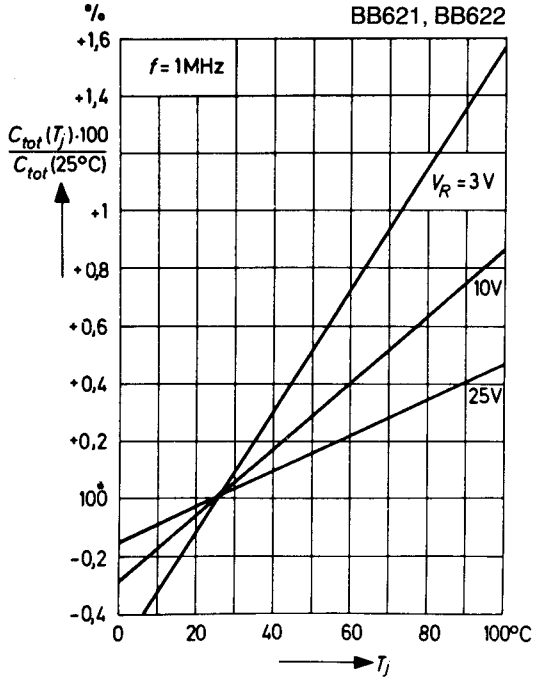
**Capacitance versus reverse voltage**



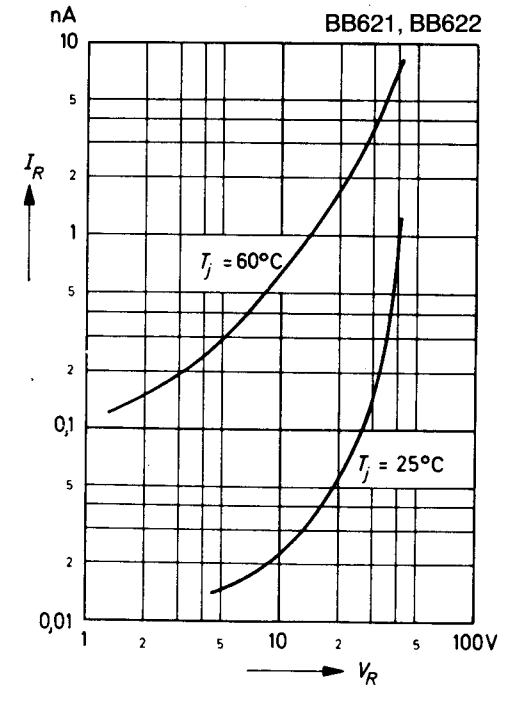

**Temperature coefficient of capacitance versus reverse voltage**



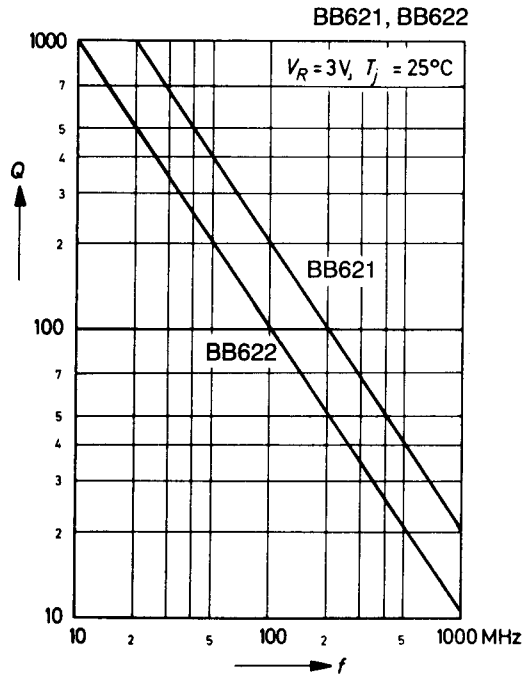

**Relative capacitance versus junction temperature**




**Leakage current versus reverse voltage**



**Q-Factor versus frequency**



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