

Silicon Variable Capacitance Diode

Description

The 1T362 is a variable capacitance diode designed for electronic tuning of TV tuners, and the super miniature package allows the tuner miniaturization.

Features

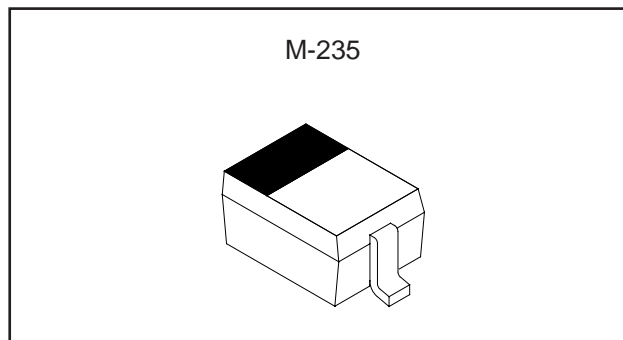
- Super miniature package
- Low series resistance 0.65 Ω Max. (f=470 MHz)
- Large capacitance ratio 6.5 Typ. (C₂/C₂₅)
- Small leakage current 10 nA Max. (V_R=28 V)
- Maximum capacitance deviation
3 % Max.

Applications

Electronic tuning for TV and CATV

Structure

Silicon epitaxial planar type diode



Absolute Maximum Ratings (T_a=25 °C)

- Reverse voltage V_R 30 V
- Peak reverse voltage V_{RM} 35 V
(R_L≥10 kΩ)
- Operating temperature Topr 85 °C
- Storage temperature Tstg -55 to +150 °C

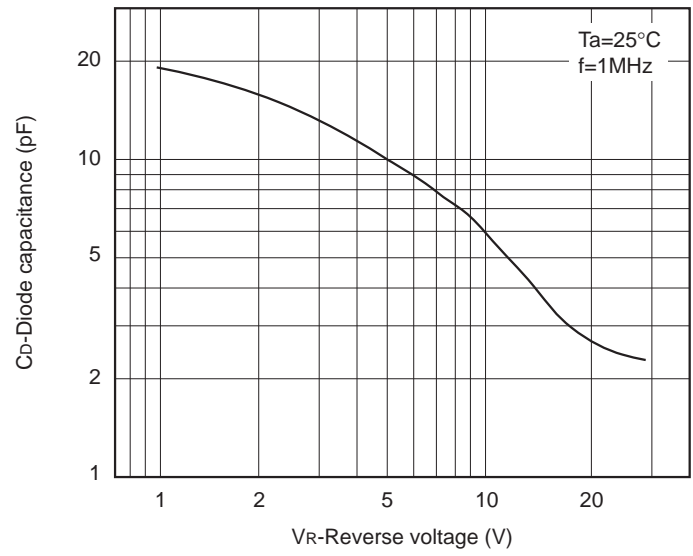
Electrical Characteristics

(T_a=25 °C)

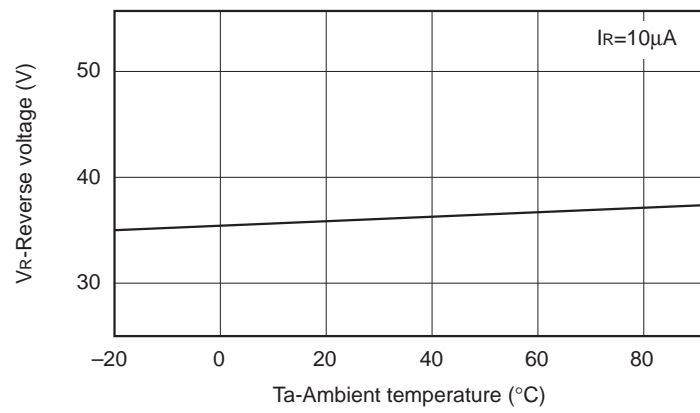
| Item | Symbol | Conditions | Min. | Typ. | Max. | Unit |
|---|---------------------------------|------------------------------------|-------|-------|-------|------|
| Reverse current | I _R | V _R =28 V | | | 10 | nA |
| Diode capacitance | C ₂ | V _R =2 V, f=1 MHz | 14.01 | 15.00 | 16.33 | pF |
| | C ₂₅ | V _R =25 V, f=1 MHz | 2.10 | 2.27 | 2.39 | pF |
| Capacitance ratio | C ₂ /C ₂₅ | f=1 MHz | | 6.5 | | |
| Series resistance | r _S | C _D =14 pF, f=470 MHz | | 0.57 | 0.65 | Ω |
| Maximum-capacitance deviation in the same ranking | ΔC | V _R =2 to 25 V, f=1 MHz | | | 3 | % |

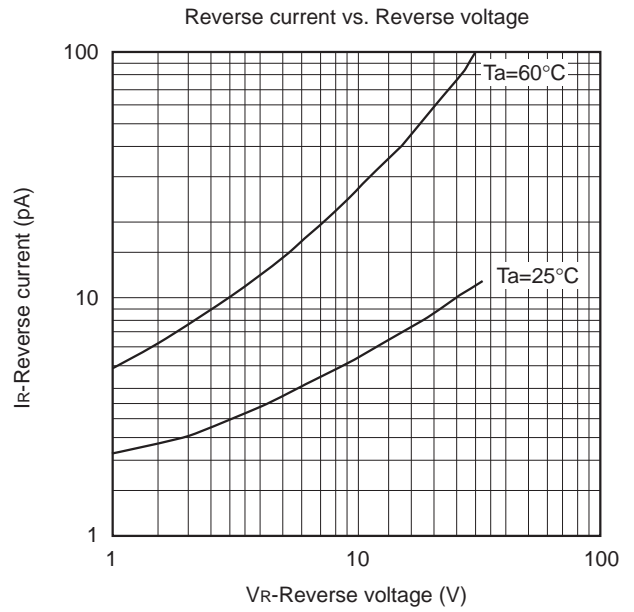
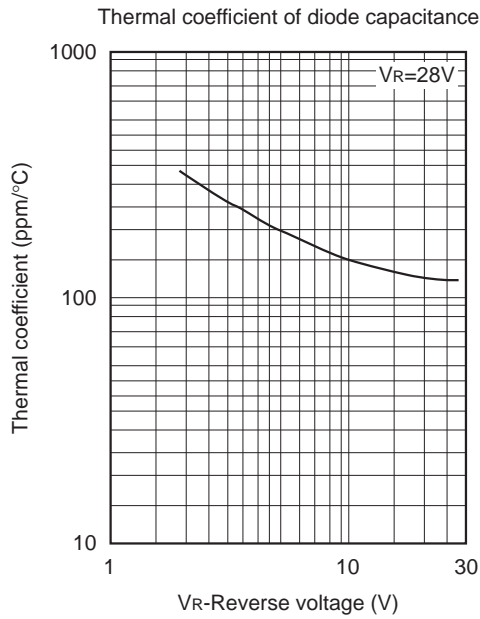
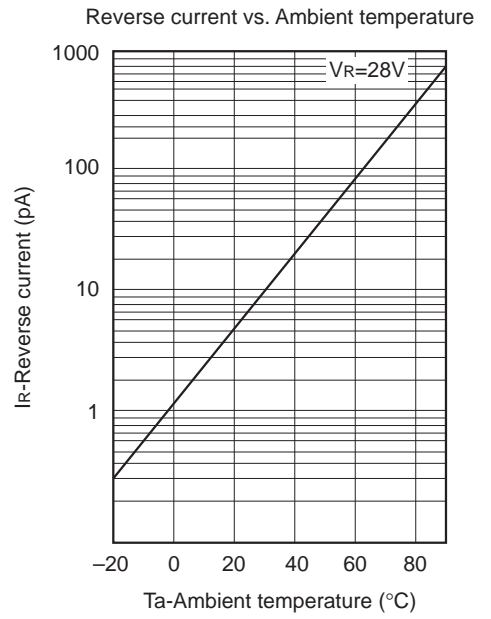
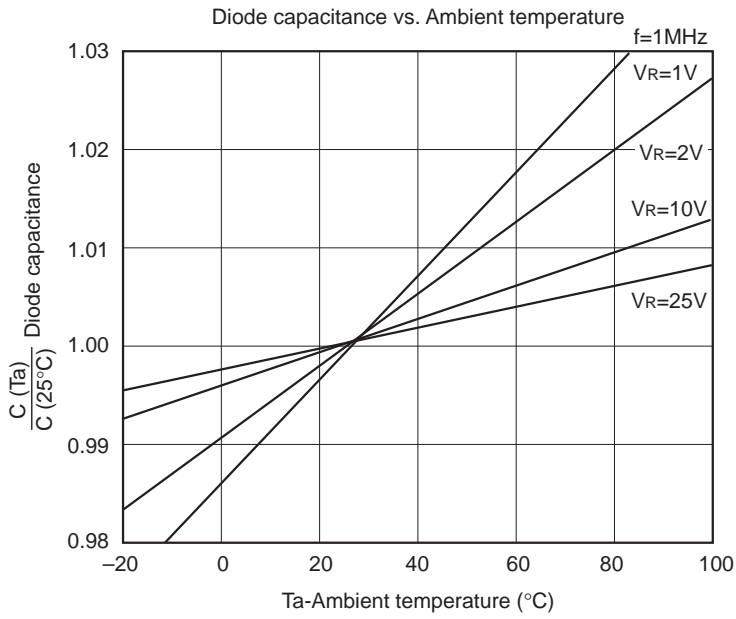
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Diode capacitance vs. Reverse voltage



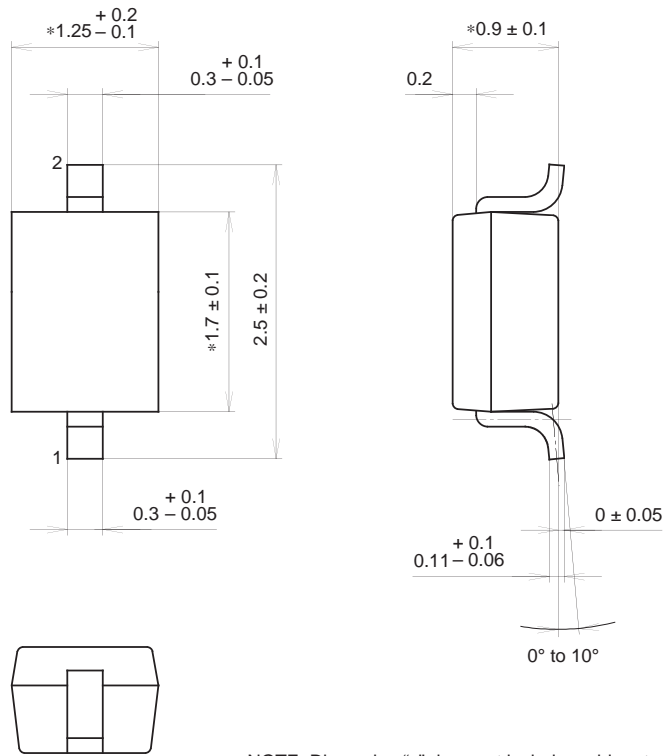
Reverse voltage vs. Ambient temperature





Package Outline Unit : mm

M-235

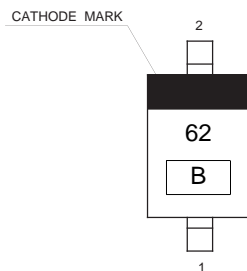


NOTE: Dimension "*" does not include mold protrusion.

| | |
|------------|-------|
| SONY CODE | M-235 |
| EIAJ CODE | _____ |
| JEDEC CODE | _____ |

| | |
|----------------|------|
| PACKAGE WEIGHT | 0.1g |
|----------------|------|

Marking



Notes

- 1) B: Lot No. (Year and Month of manufacture)
Year; Last one digit
Month; A, B, C (for Oct. to Dec.)
1 to 9 (for Jan. to Sept.)