

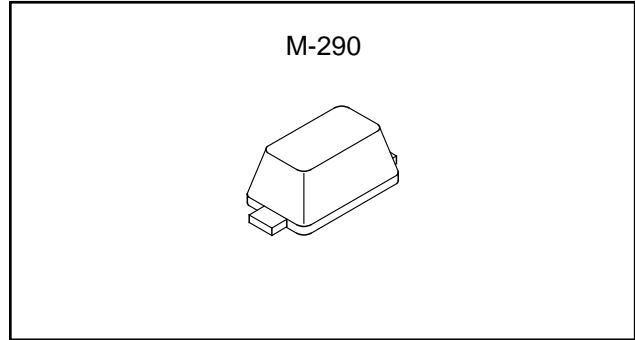
Variable Capacitance Diode

Description

The 1T406 is a variable capacitance diode designed for electronic tuning of wide-band CATV tuners using a super-small-miniature flat package (SSVC).

Features

- Super-small-miniature flat package
- Low series resistance: 1.0 Ω Max. (f=470 MHz)
- Large capacitance ratio: 15.5 Typ. (C₂/C₂₅)
- Small leakage current: 10 nA Max. (V_R=28 V)
- Capacitance deviation in a matching group: within 2 %



Absolute Maximum Ratings (Ta=25 °C)

- Reverse voltage V_R 34 V
- Operating temperature T_{opr} -20 to +75 °C
- Storage temperature T_{stg} -65 to +150 °C

Applications

Electronic tuning of wide-band CATV tuners

Structure

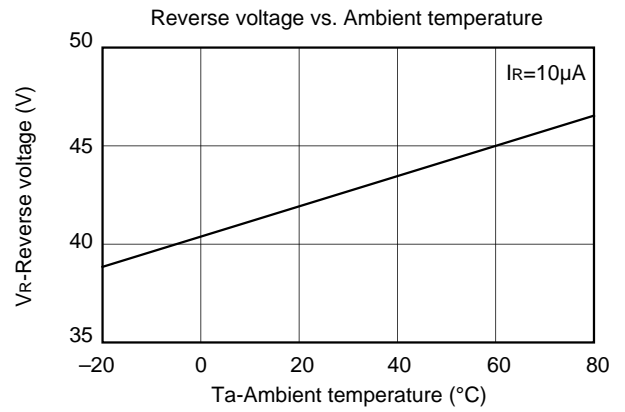
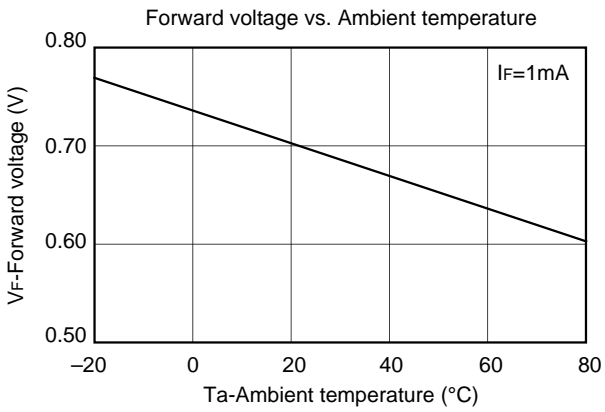
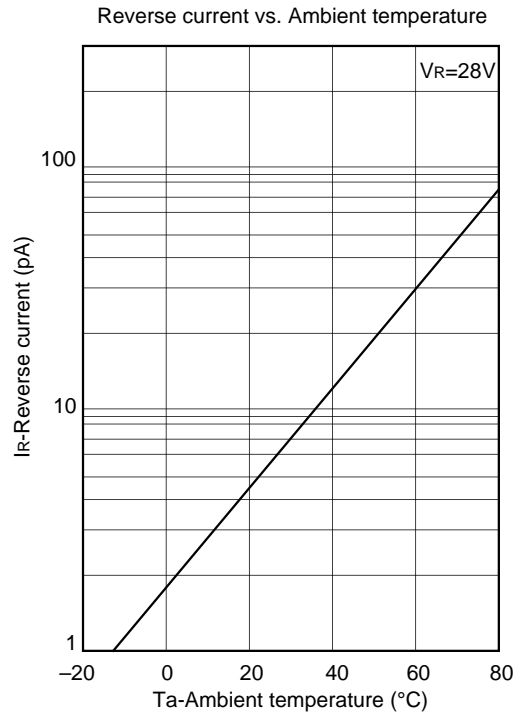
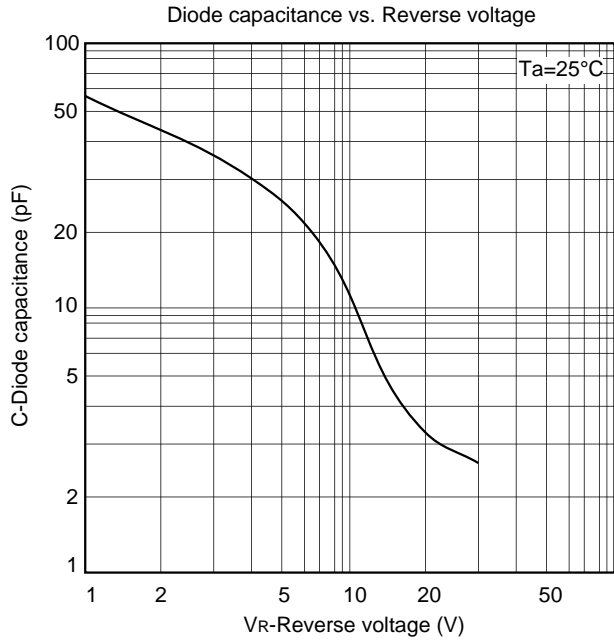
Silicon epitaxial planar type diode

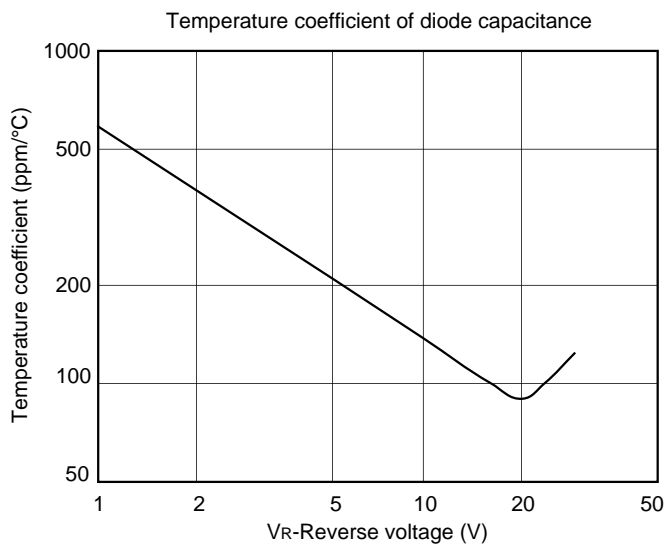
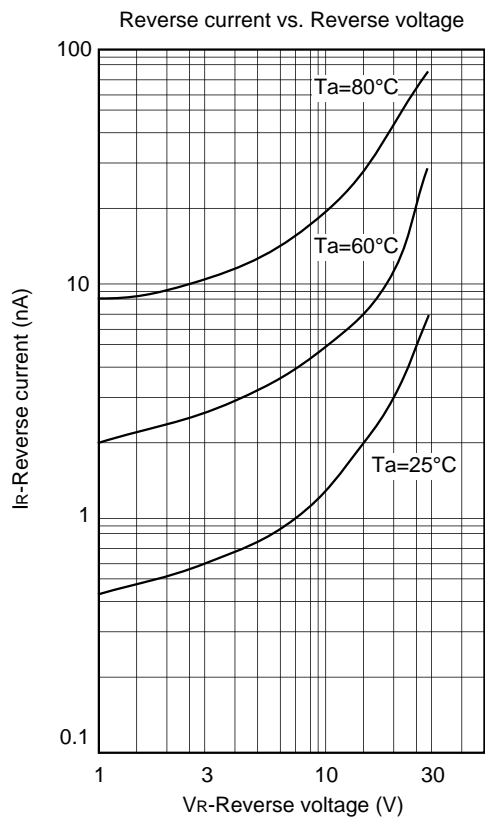
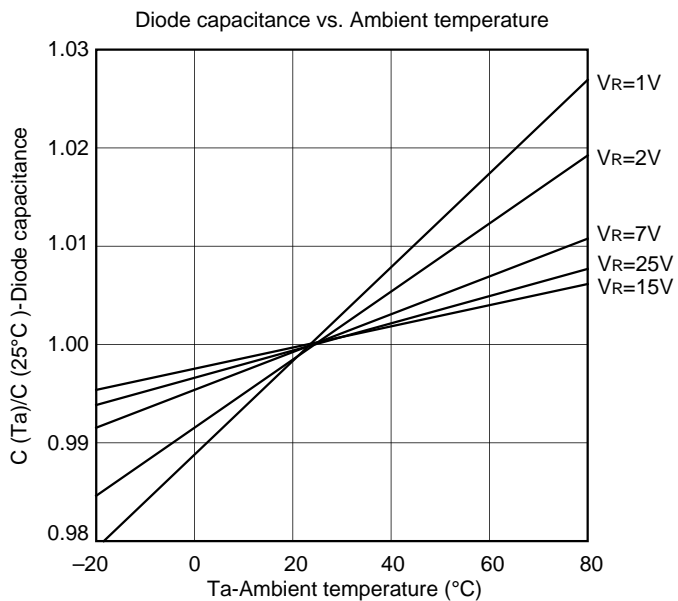
Electrical Characteristics

(Ta=25 °C)

| Item | Symbol | Conditions | Min. | Typ. | Max. | Unit |
|---|---------------------------------|---|-------|------|-------|------|
| Reverse current | I _R | V _R =28 V | | | 10 | nA |
| Reverse voltage | V _R | I _R =1 μA | 34 | | | V |
| Diode capacitance | C ₂ | V _R =2 V, f=1 MHz | 39.46 | | 47.36 | pF |
| | C ₂₅ | V _R =25 V, f=1 MHz | 2.56 | | 2.99 | pF |
| Capacitance ratio | C ₂ /C ₂₅ | | 14.5 | 15.5 | | |
| Series resistance | r _s | C _D =14 pF, f=470 MHz | | | 1.0 | Ω |
| Capacitance deviation in a matching group | ΔC | C ₂ to C ₂₅ , f=1 MHz | | | 2 | % |

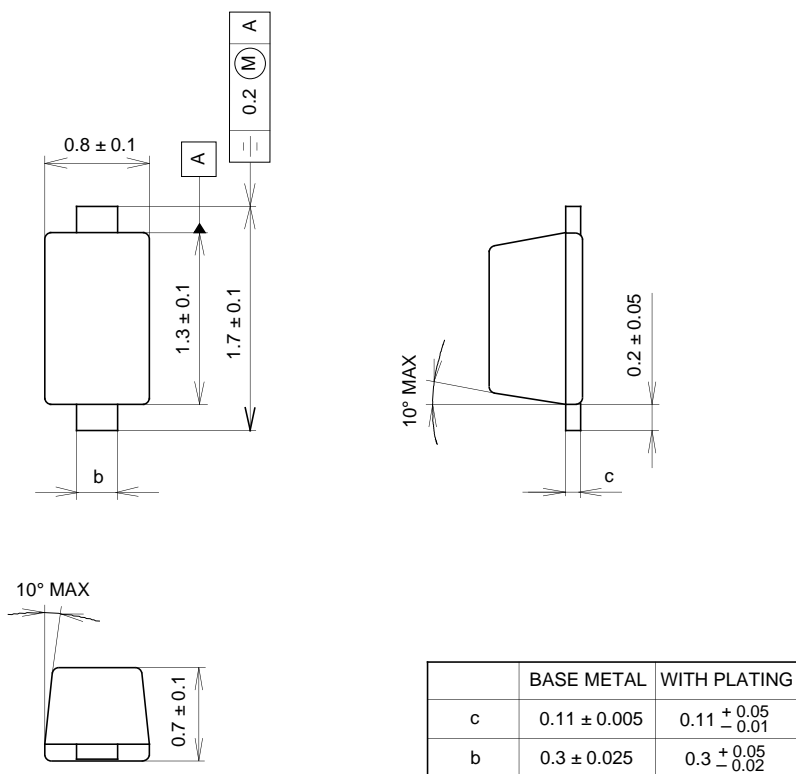
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Package Outline Unit : mm

M-290



| | |
|------------|-------|
| SONY CODE | M-290 |
| EIAJ CODE | _____ |
| JEDEC CODE | _____ |

| | |
|------------------|----------------|
| PACKAGE MATERIAL | EPOXY RESIN |
| LEAD TREATMENT | SOLDER PLATING |
| LEAD MATERIAL | COPPER |
| PACKAGE WEIGHT | 0.002g |

Mark

