

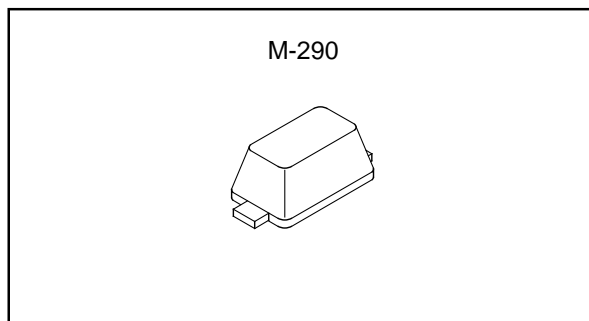
Variable Capacitance Diode

Description

The 1T407 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: 1.1 Ω Max. (f=470 MHz)
- Large capacitance ratio: 15.5 Typ. (C₂/C₂₅)
21.5 Min. (C₁/C₂₈)
1.03 Min. (C₂₅/C₂₈)
- Small leakage current: 10 nA Max. (V_R=28 V)
- Capacitance deviation in a matching group:
within 2 %



Absolute Maximum Ratings (T_a=25 °C)

- | | | | |
|-------------------------|----------------|-------------|----|
| • Reverse voltage | V _R | 34 | V |
| • Operating temperature | Topr | -20 to +75 | °C |
| • Storage temperature | Tstg | -65 to +150 | °C |

Applications

Electronic tuning of wide-band CATV tuners

Structure

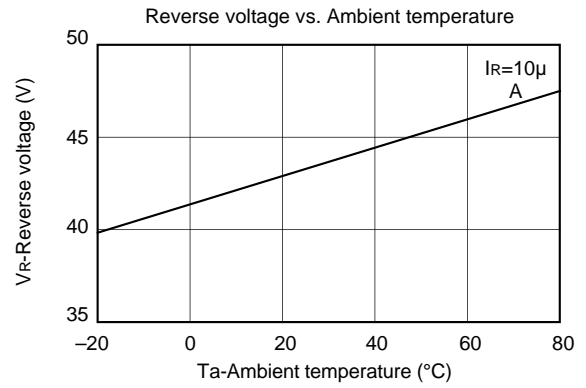
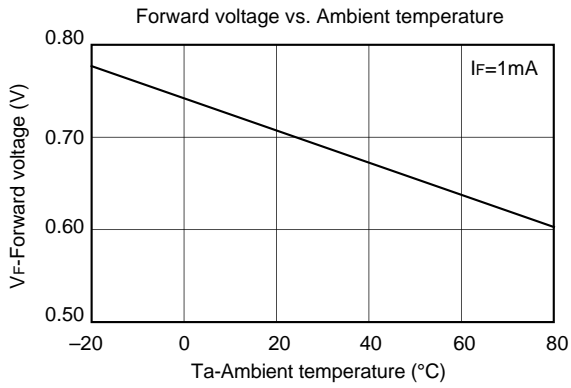
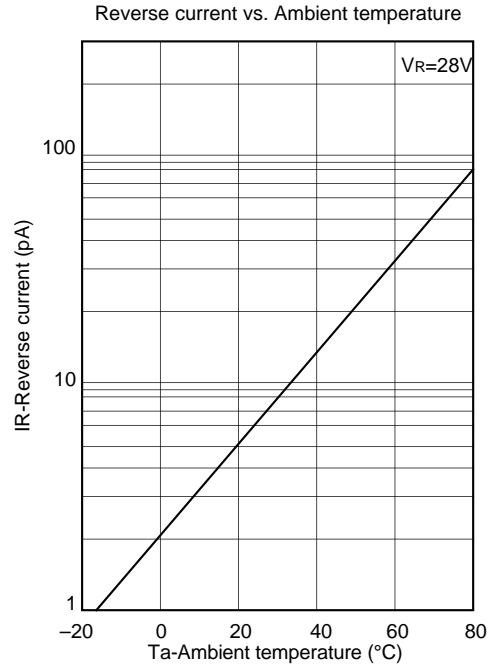
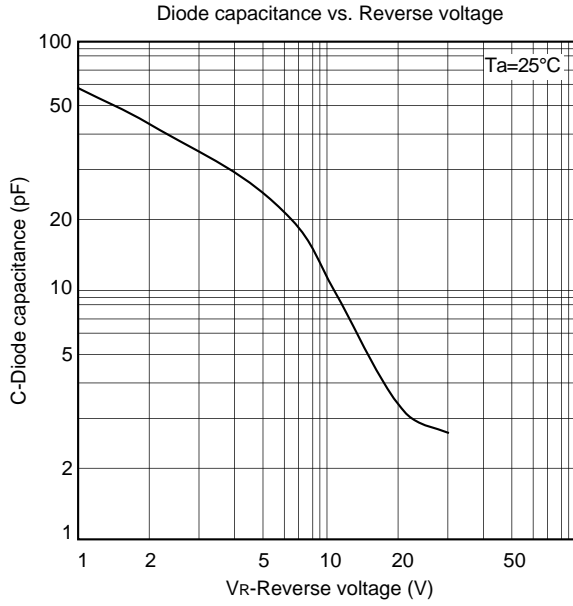
Silicon epitaxial planar type diode

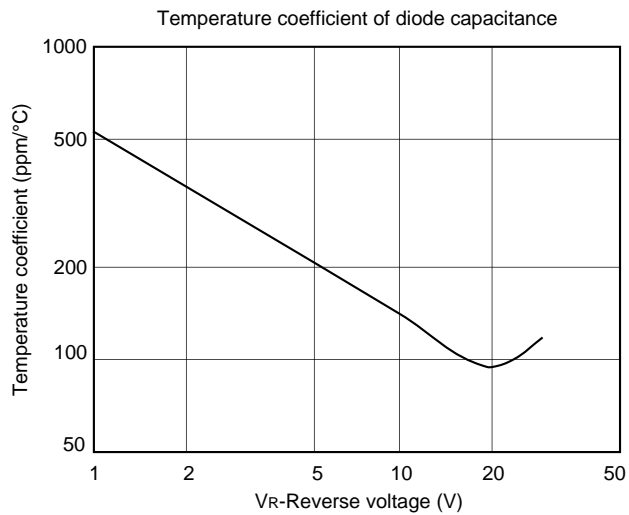
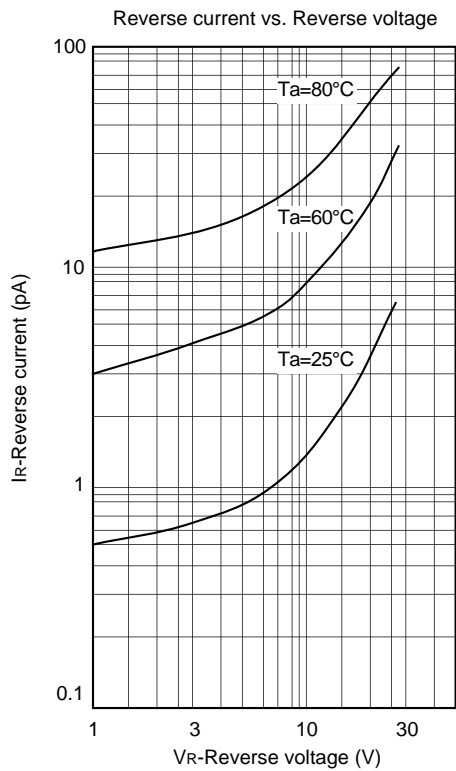
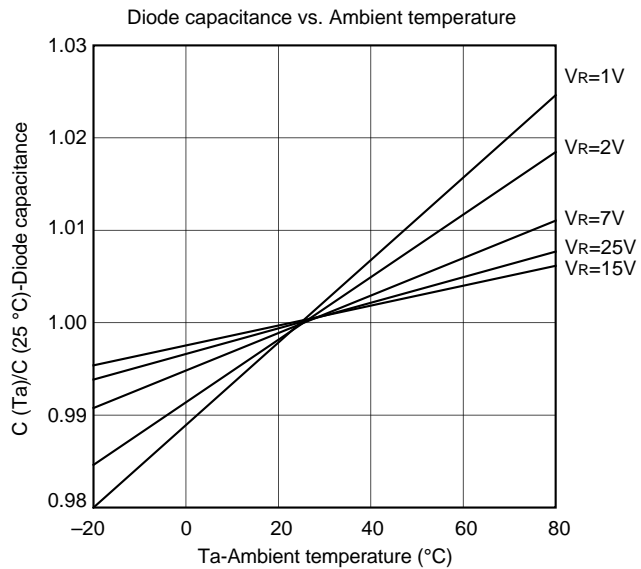
Electrical Characteristics

(T_a=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 μ A	34			V
Diode capacitance	C ₂	V _R =2 V, f=1 MHz	42.86		50.96	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		
	C ₁ /C ₂₈		21.5			
	C ₂₅ /C ₂₈		1.03			
Series resistance	r _s	C _D =14 pF, f=470 MHz			1.1	Ω
Capacitance deviation in a matching group	Δ C	V _R =1 to 28 V, f= MHz			2	%

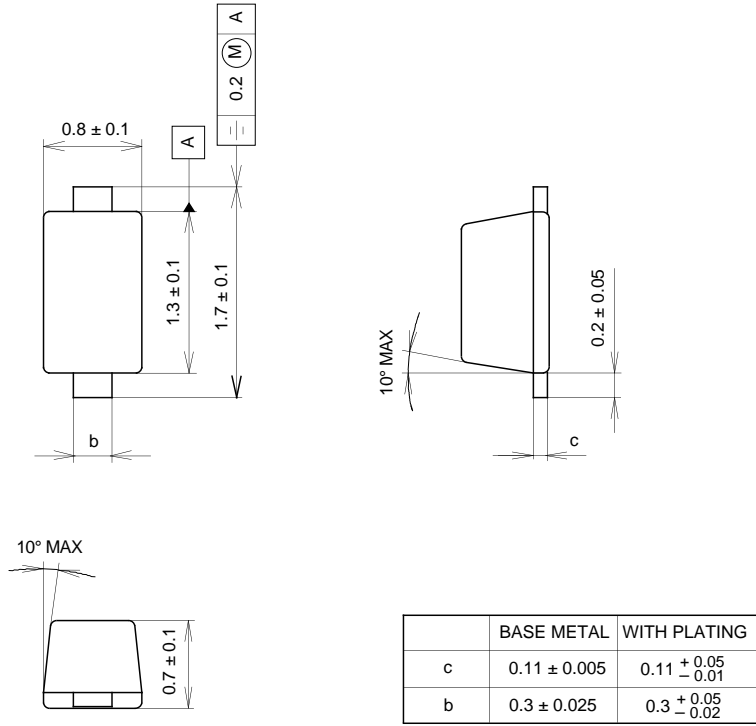
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Package Outline Unit : mm

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

