

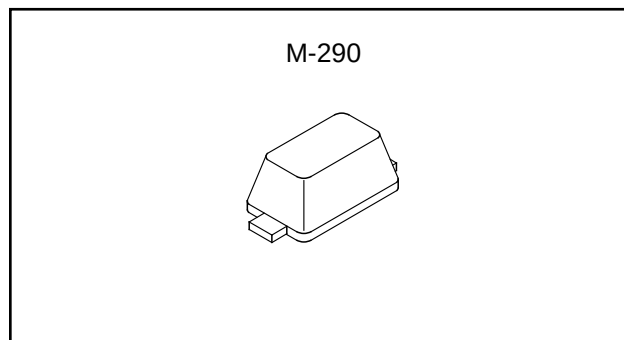
Variable Capacitance Diode

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. (C_2/C_{25})
21.5 Min. (C_1/C_{28})
1.03 Min. (C_{25}/C_{28})
- 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

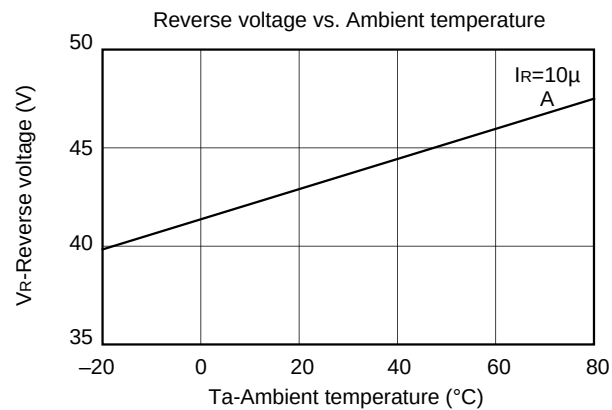
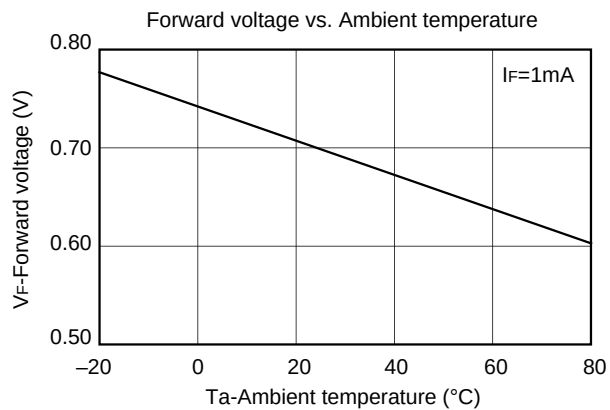
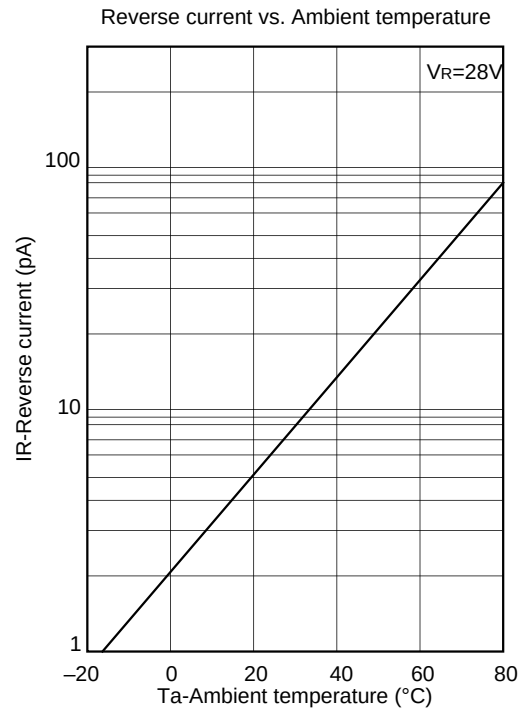
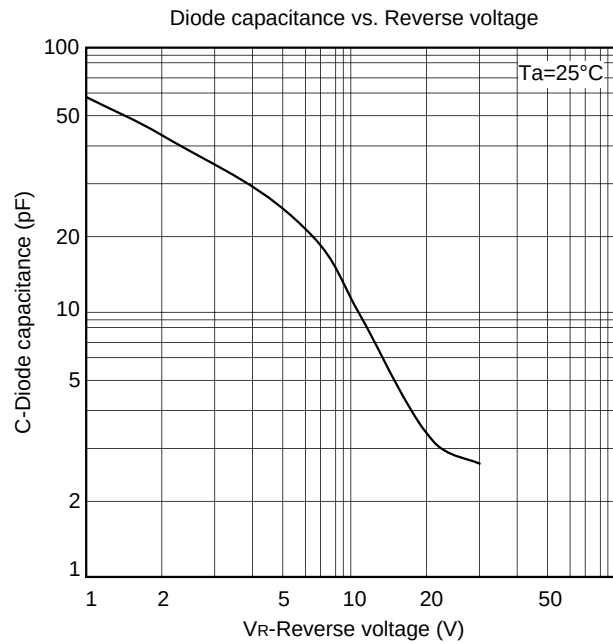
Silicon epitaxial planar type diode

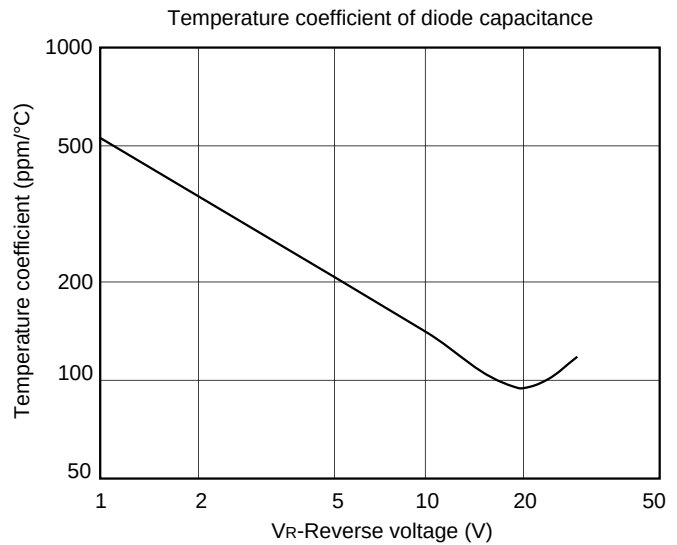
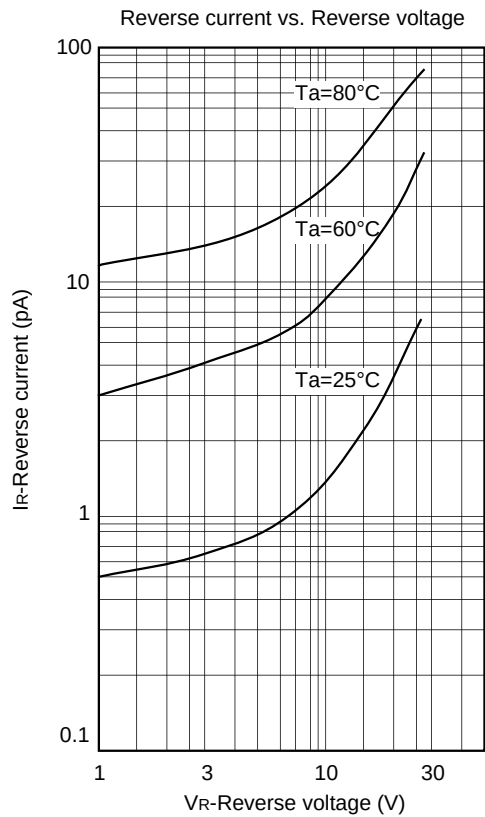
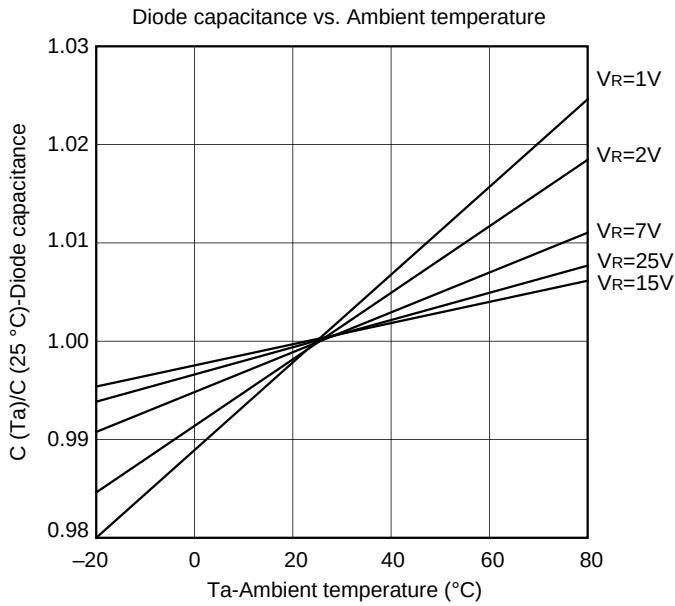
Electrical Characteristics

(Ta=25 °C)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Reverse current	I_R	$V_R=28$ V			10	nA
Reverse voltage	V_R	$I_R=1$ 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	ΔC	$V_R=1$ to 28 V, f= MHz			2	%

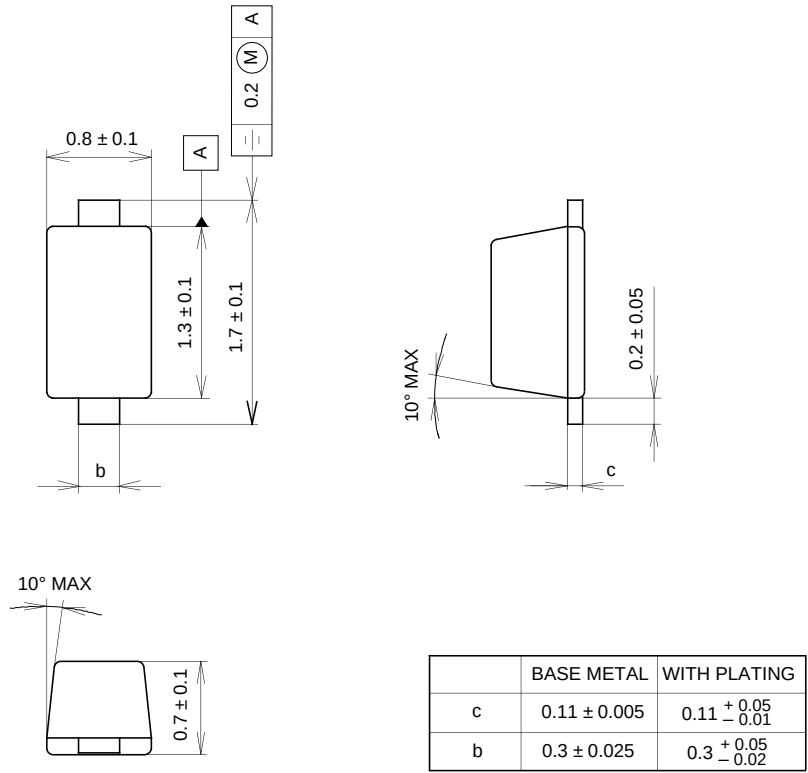
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Package Outline Unit : mm

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

