

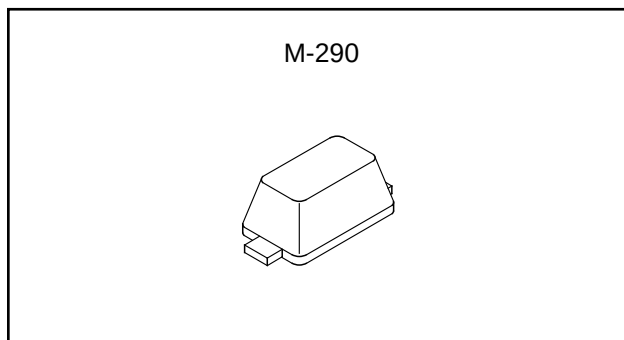
Variable Capacitance Diode

Description

The 1T404 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: $0.75\ \Omega$ Max. ($f=470\text{ MHz}$)
- Large capacitance ratio: 11.5 Typ. (C_2/C_{25})
- Small leakage current: 10 nA Max. ($V_R=28\text{ V}$)
- Capacitance deviation in a matching group:
within 2 %



Absolute Maximum Ratings ($T_a=25\text{ }^\circ\text{C}$)

- Reverse voltage V_R 34 V
- Operating temperature T_{opr} $-20\text{ to }+75\text{ }^\circ\text{C}$
- Storage temperature T_{stg} $-65\text{ to }+150\text{ }^\circ\text{C}$

Applications

Electronic tuning of wide-band CATV tuners

Structure

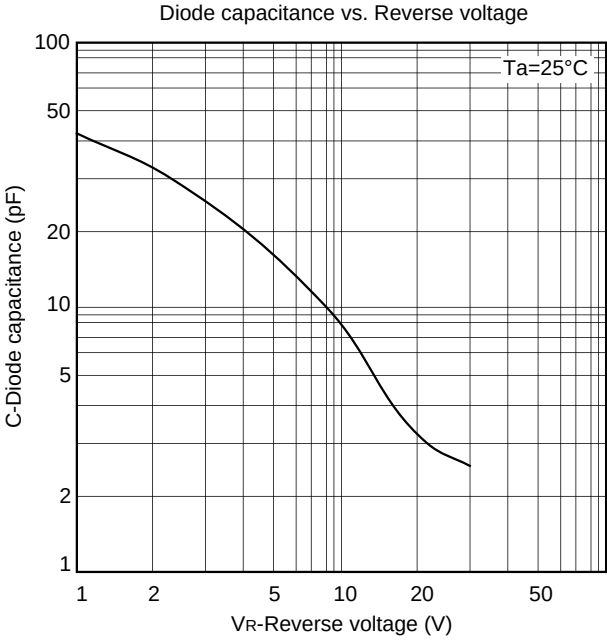
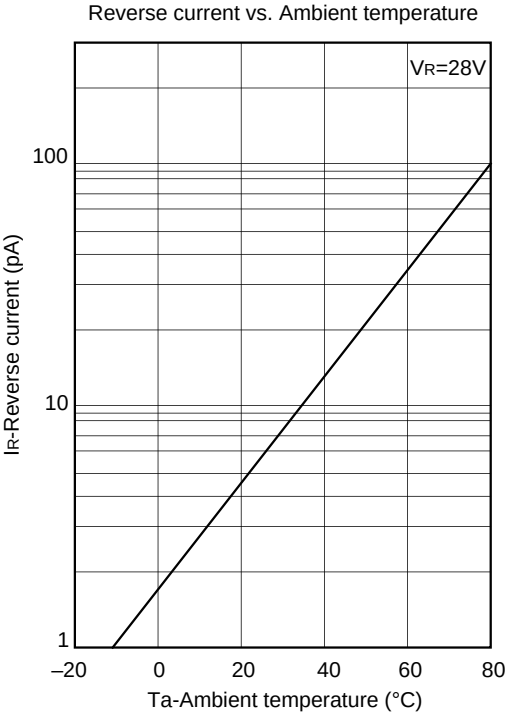
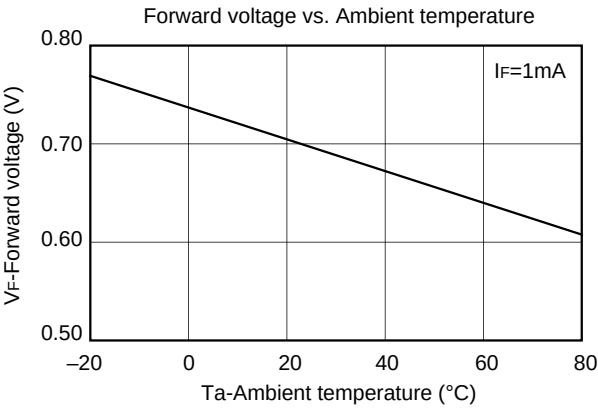
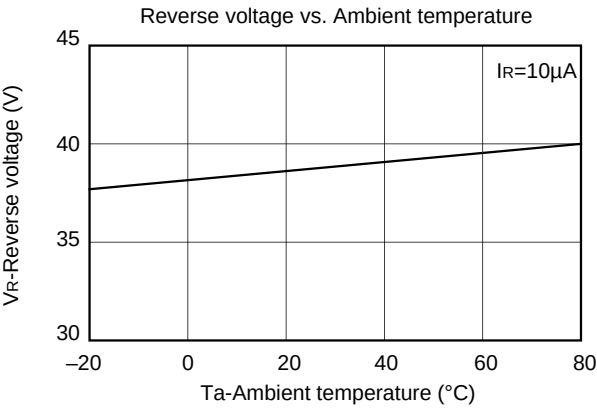
Silicon epitaxial planar type diode

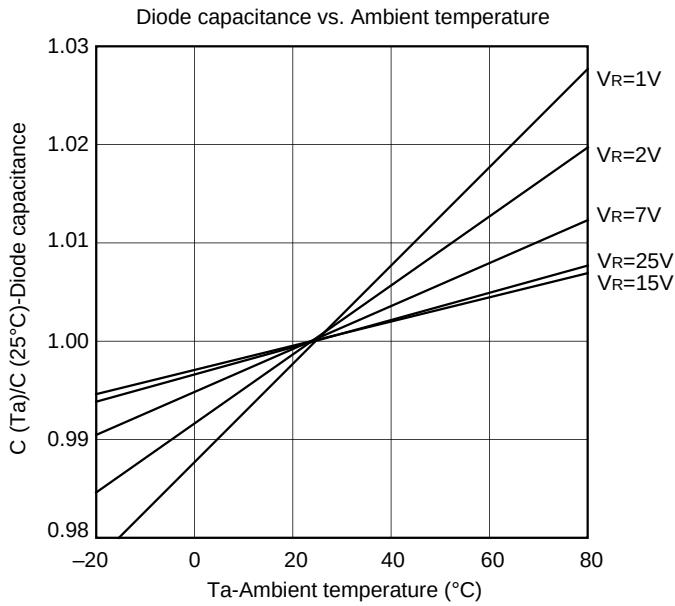
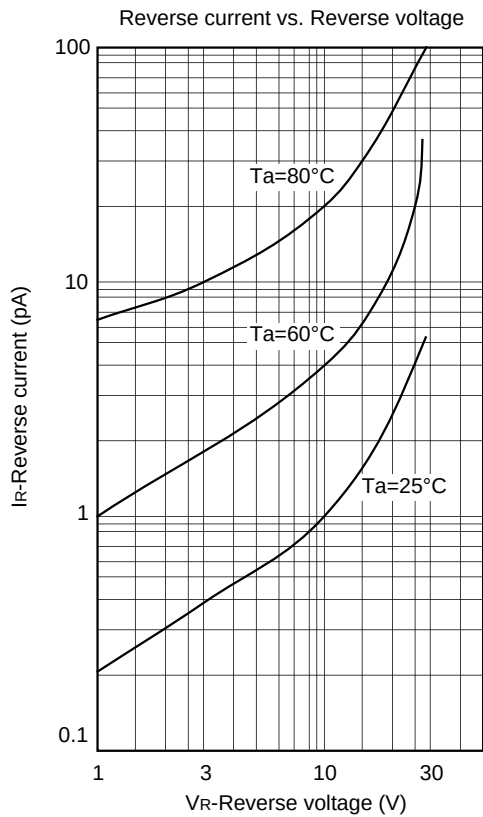
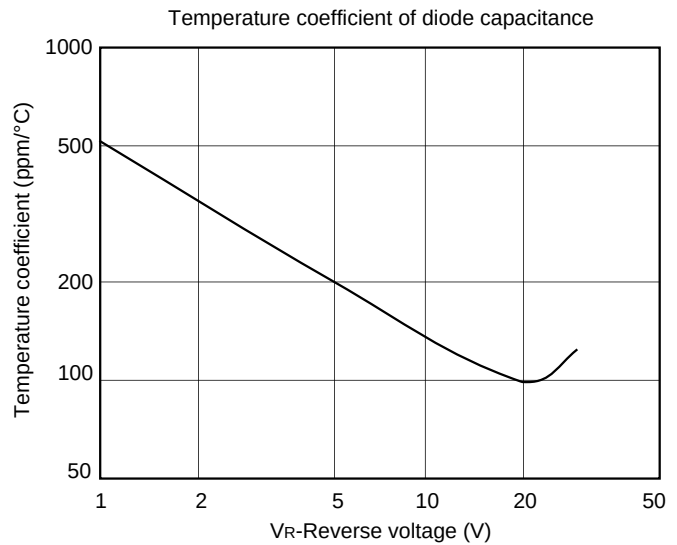
Electrical Characteristics

($T_a=25\text{ }^\circ\text{C}$)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Reverse current	I_R	$V_R=28\text{ V}$			10	nA
Diode capacitance	C_2	$V_R=2\text{ V}$, $f=1\text{ MHz}$	29.36		34.26	pF
	C_{25}	$V_R=25\text{ V}$, $f=1\text{ MHz}$	2.49		2.89	pF
Capacitance ratio	C_2/C_{25}		11.0	11.5		
Series resistance	r_s	$C_D=14\text{ pF}$, $f=470\text{ MHz}$			0.75	Ω
Capacitance deviation in a matching group	ΔC	$V_R=2\text{ to }25\text{ V}$, $f=1\text{ MHz}$			2	%

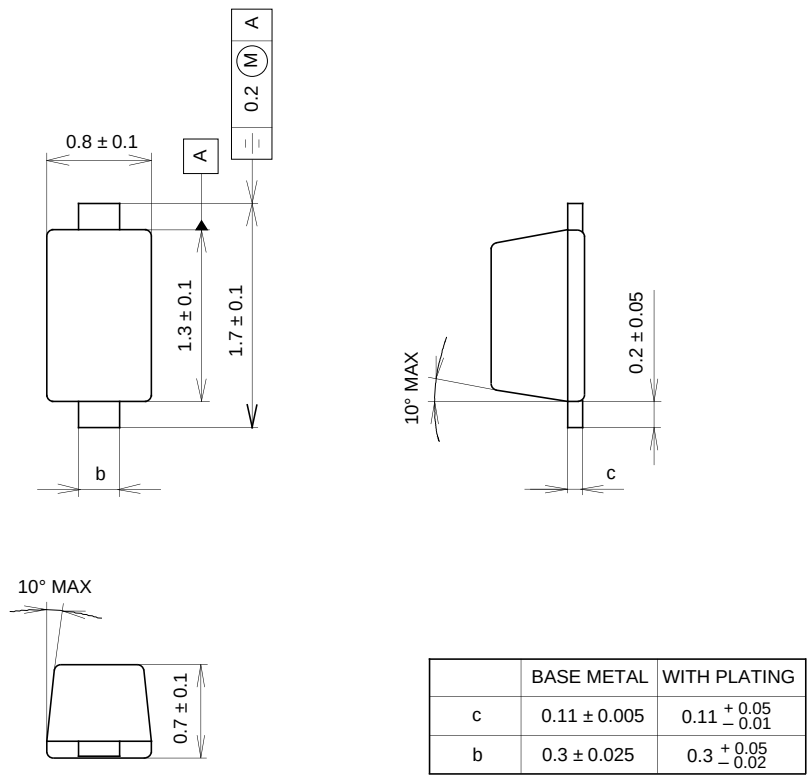
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Package Outline Unit : mm

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

