

Variable Capacitance Diode

Description

The 1T410 is a variable capacitance diode designed for electronic tuning of BS/CS tuners using a super-small-miniature flat package (SSVC).

Features

- Super-small-miniature flat package
- Low series resistance: 1.5 Ω Max. (f=470 MHz)
- Large capacitance ratio: 12.0 Typ. (C_1/C_{25})
- Small leakage current: 10 nA Max. ($V_R=25$ V)
- Capacitance deviation in a matching group:
within 6 %

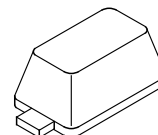
Applications

Electronic tuning of BS/CS tuners

Structure

Silicon epitaxial planar type diode

M-290



Absolute Maximum Ratings (Ta=25 °C)

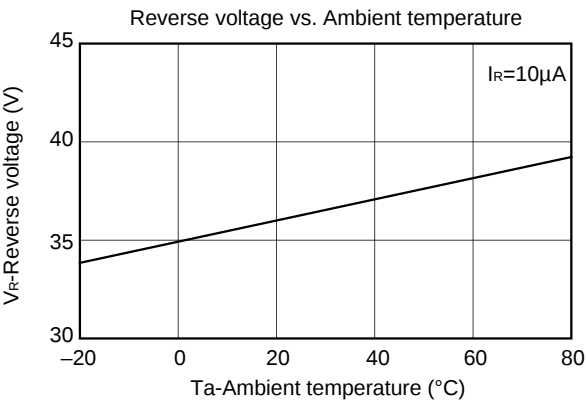
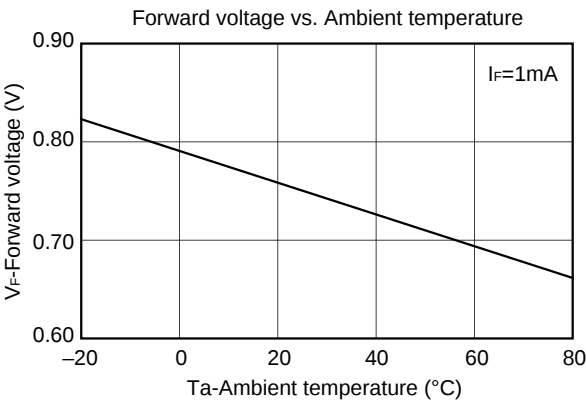
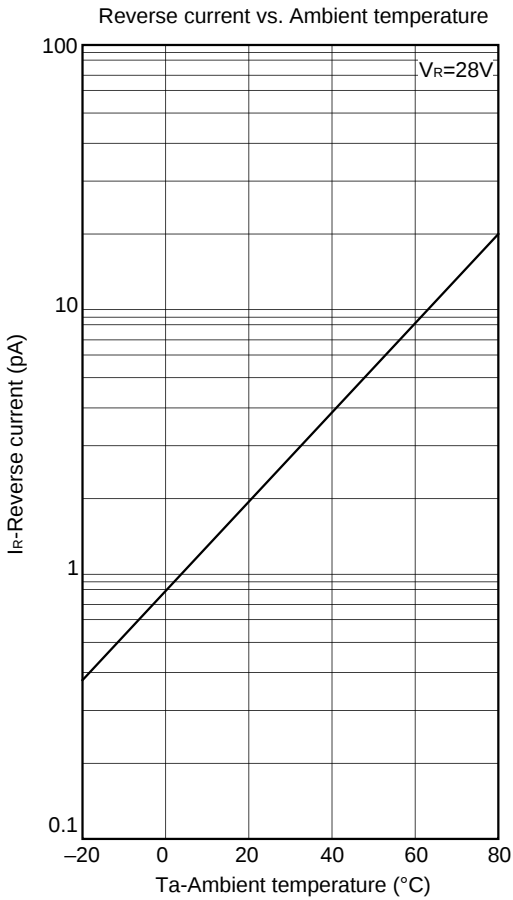
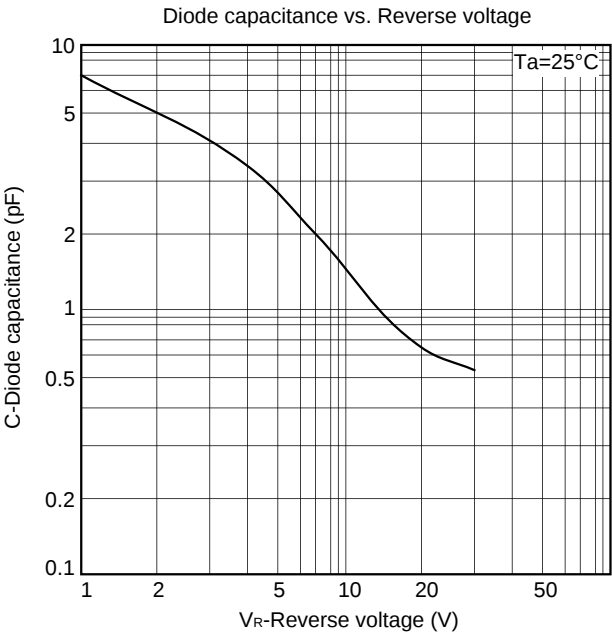
- Reverse voltage V_R 30 V
- Peak reverse voltage V_{RM} 35 V
($R_L \geq 10$ k Ω)
- Operating temperature T_{opr} -20 to +75 °C
- Storage temperature T_{stg} -65 to +150 °C

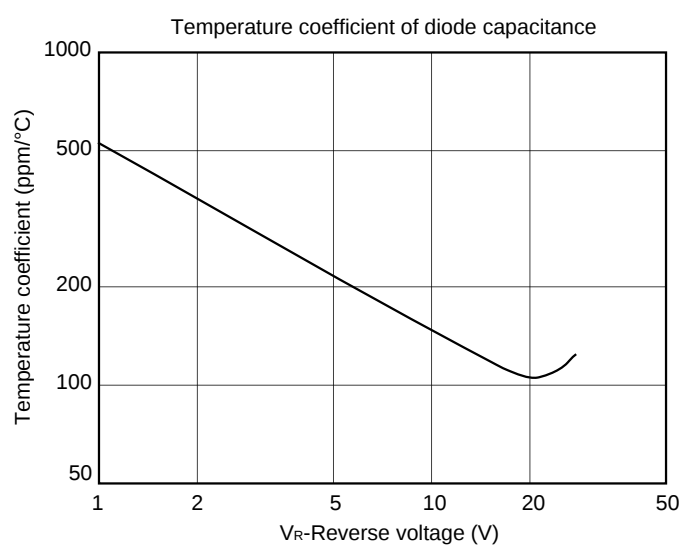
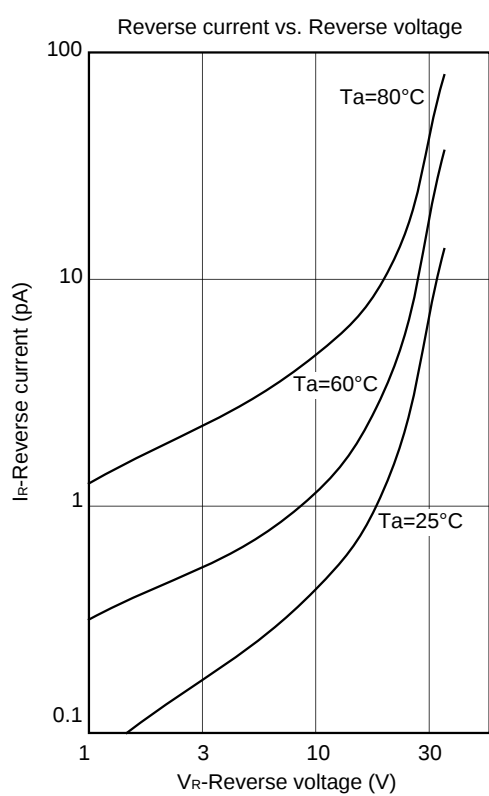
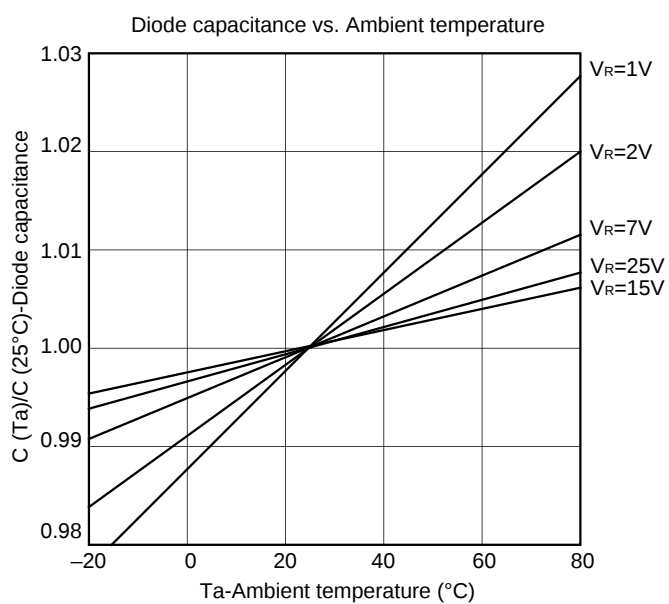
Electrical Characteristics

(Ta=25 °C)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Reverse current	I_R	$V_R=25$ V			10	nA
Reverse voltage	V_R	$I_R=1$ μ A	30			v
Diode capacitance	C_1	$V_R=1$ V, f=1 MHz	5.96		7.16	pF
	C_{25}	$V_R=25$ V, f=1 MHz	0.46		0.60	pF
Capacitance ratio	C_1/C_{25}		10.0	12.0		
Series resistance	r_s	$V_R=5$ V, f=470 MHz		1.30	1.50	Ω
Capacitance deviation in a matching group	ΔC	$V_R=1$ to 25 V, f=1 MHz			6	%

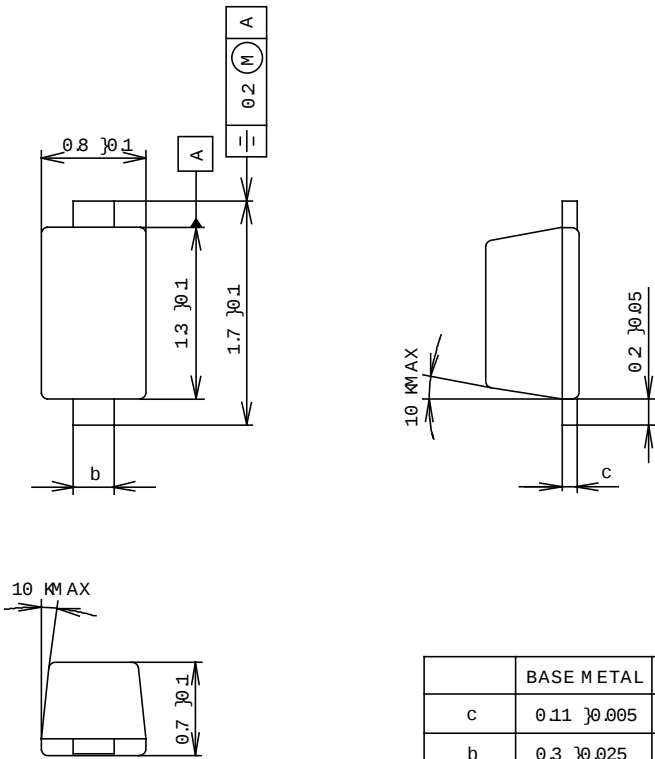
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Package Outline Unit : mm

M -290

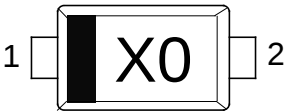


	BASE METAL	WITH PLATING
c	0.11 ±0.005	0.11 {0.05 0.01
b	0.3 ±0.025	0.3 {0.05 0.02

SONY CODE	M -290
EIAJ CODE	_____
JEDEC CODE	_____

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

Mark



- 1 : Cathode
- 2 : Anode