SONY

1T397

Variable Capacitance Diode

Description

The 1T397 is a variable capacitance diode designed for the electronic tuning of wide band CATV tuners, and it has a super miniature package.

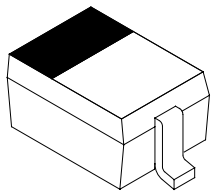
Features

- Super miniature package
- Large capacitance ratio C_2/C_{25}=14.5 Min.
  C_1/C_{28}=21.5 Min.
  C_{25}/C_{28}=1.03 Min.
- Small series resistance rs=1.1 Ω Max.
- High reverse voltage V_R=34 V

Structure

Silicon epitaxial planar-type diode

M-235



Absolute Maximum Ratings (Ta=25 °C)

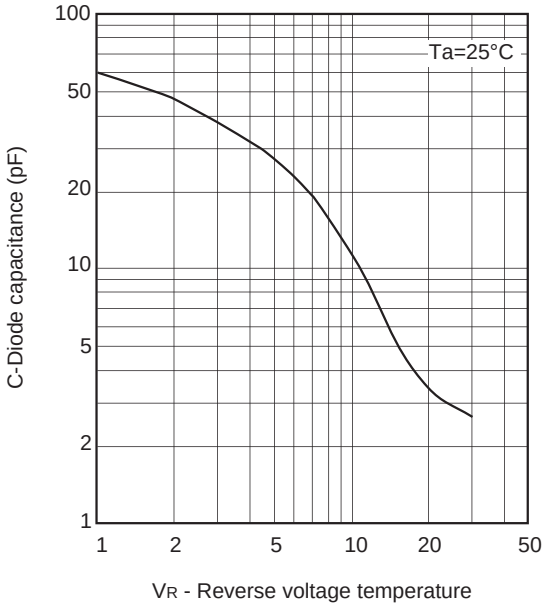
• Reverse voltage	V_R	34	V
• Operating temperature	Topr	–20 to +75	°C
• Storage temperature	Tstg	–65 to +150	°C

Electrical Characteristics (Ta=25 °C)

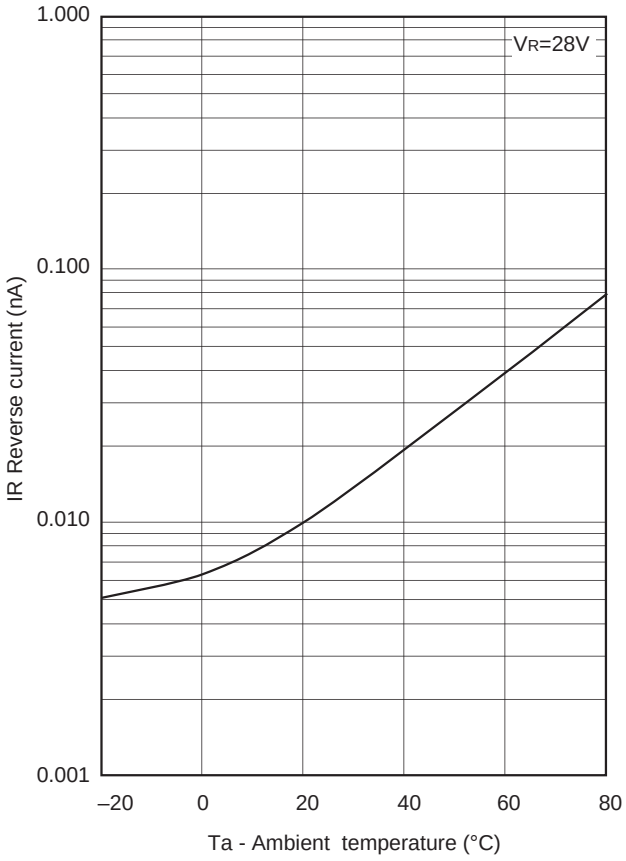
Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Reverse current	I_R	V_R=28 V			10	nA
Reverse voltage	V_R	I_R=1 µA	34			V
Diode capacitance	C_2	V_R=2 V, f=1 MHz	42.9		51.0	pF
	C_{25}	V_R=25 V, f=1 MHz	2.60		3.03	pF
Capacitance ratio	C_2/C_{25}		14.5	15.5		
	C_1/C_{28}		21.5			
	C_{25}/C_{28}		1.03			
Series resistance	rs	C_D=14 pF, f=470 MHz			1.1	Ω
Capacitance deviation in a matching group	ΔC	V_R=1 to 28 V			2.0	%

E94610B83-TE

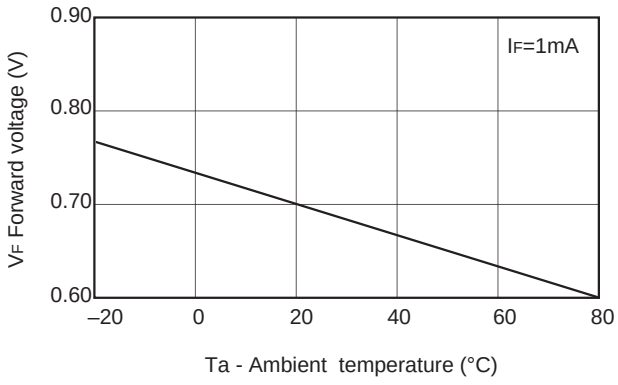
Diode capacitance vs. Reverse voltage temperature



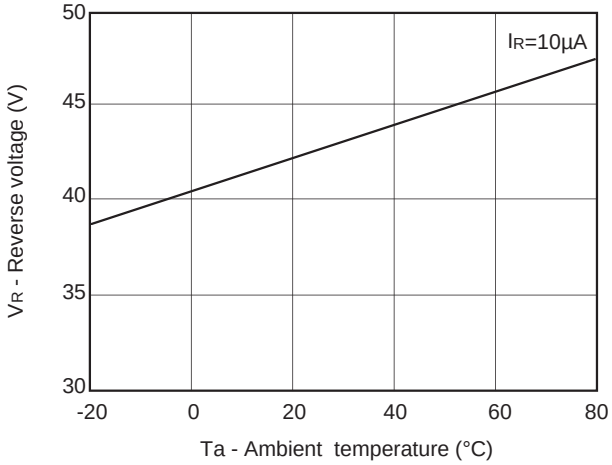
Reverse current vs. Ambient temperature



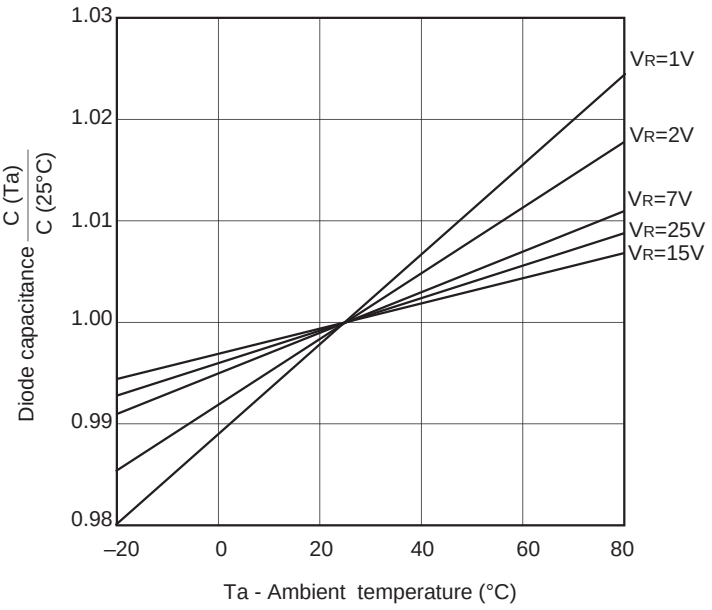
Forward voltage vs. Ambient temperature



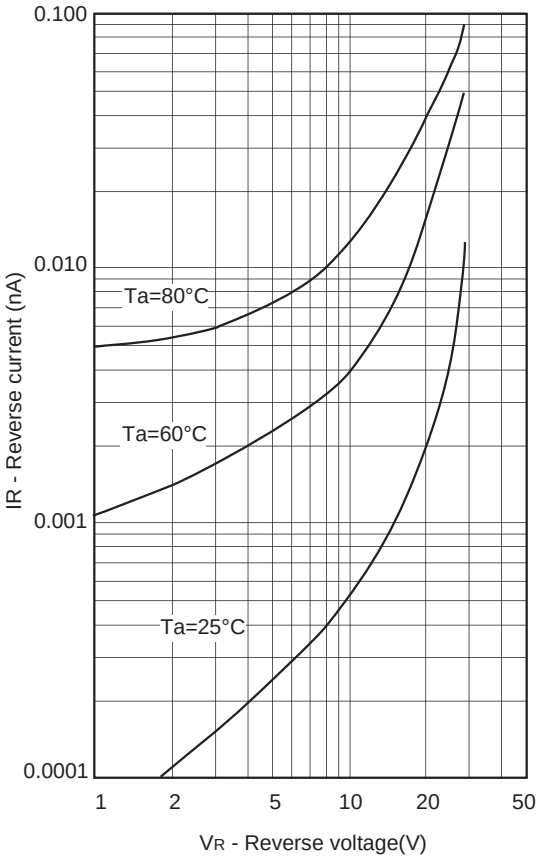
Reverse voltage vs. Ambient temperature



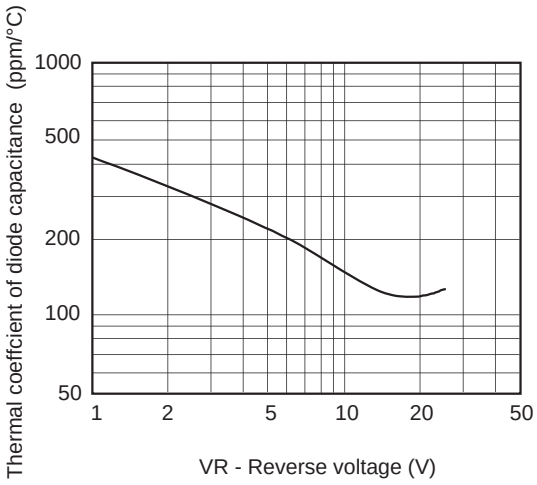
Diode capacitance vs. Ambient temperature



Reverse current vs. Reverse voltage

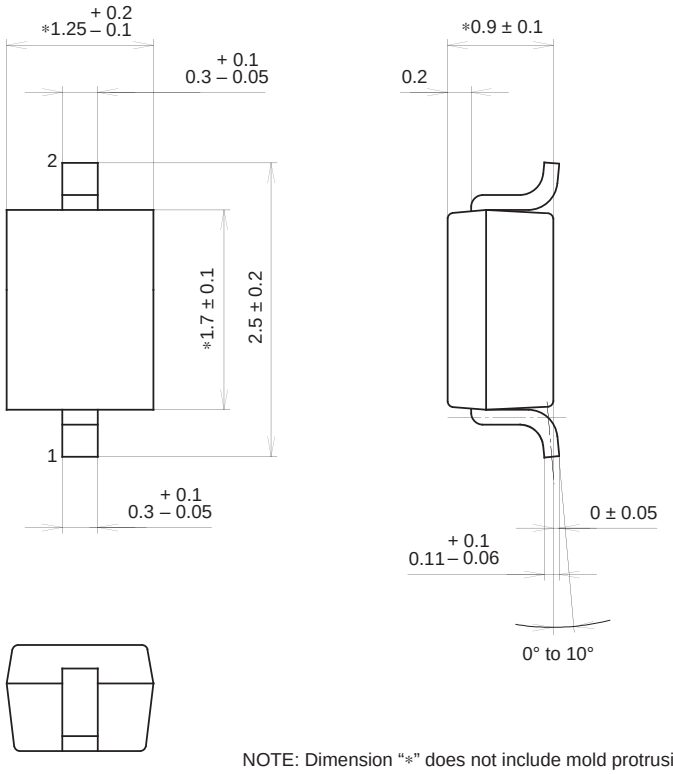


Thermal coeffcient of diode capacitance vs. Reverse voltage



Package Outline Unit : mm

M-235

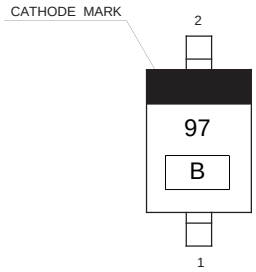


NOTE: Dimension "∗" does not include mold protrusion.

SONY CODE	M-235
EIAJ CODE	————
JEDEC CODE	————

PACKAGE WEIGHT	0.1g

Marking



Notes
1) B:Lot No.(Year and Month of manufacture)
Year;Last one digit
Month;A,B,C(for Oct. to Dec.)
1 to 9(for Jan.to Sept.)