

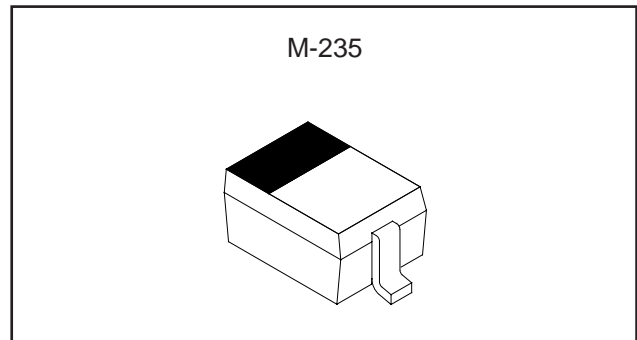
Variable Capacitance Diode

Description

The 1T399 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
- Small series resistance 0.75 Ω Max. (f=470 MHz)
- Large capacitance ratio 11.7 Typ. (C₂/C₂₅)
18.0 Typ. (C₁/C₂₈)
- Small leak 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 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

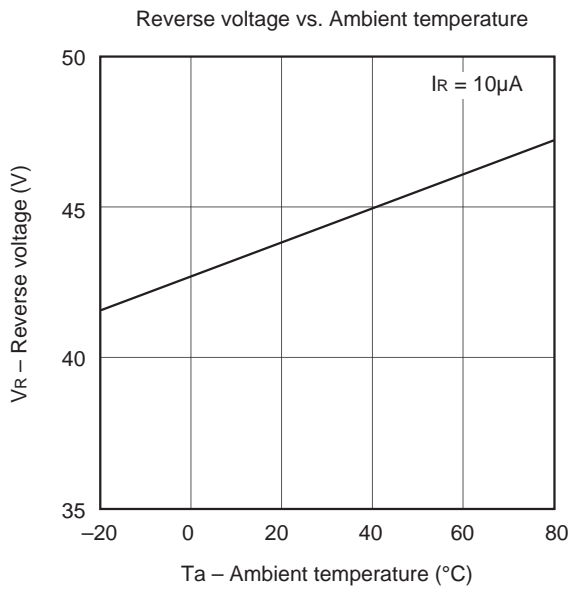
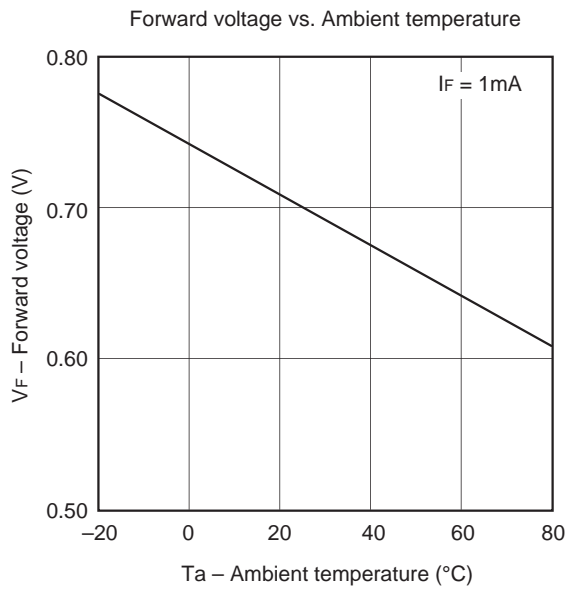
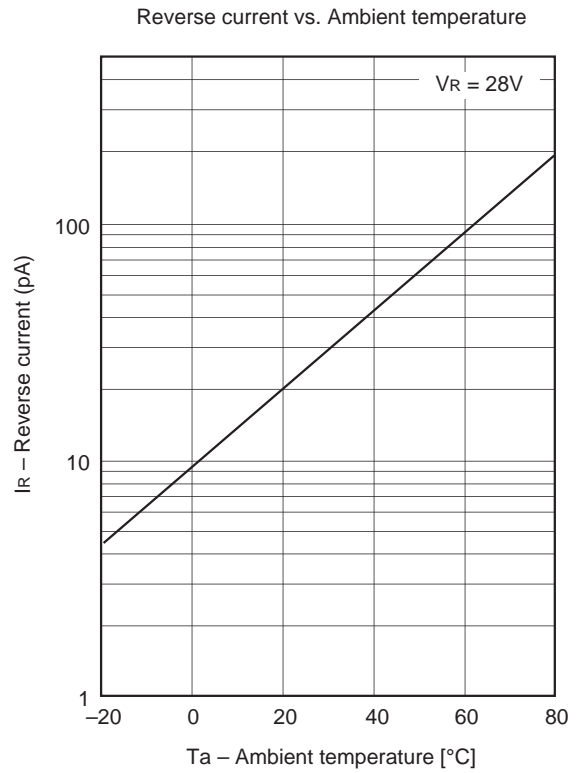
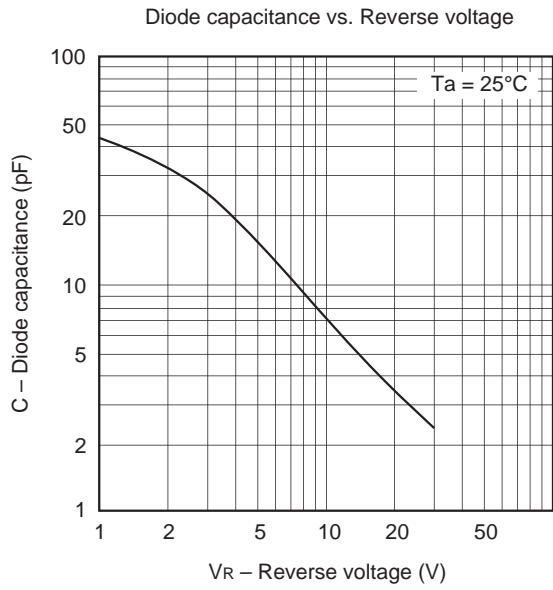
Electrical Characteristics

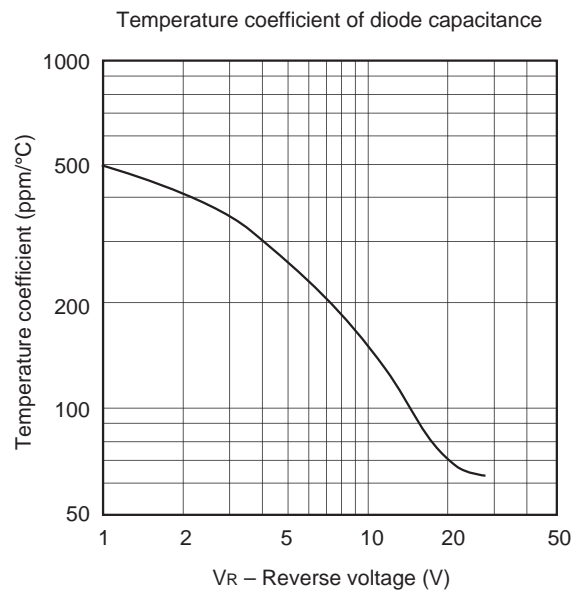
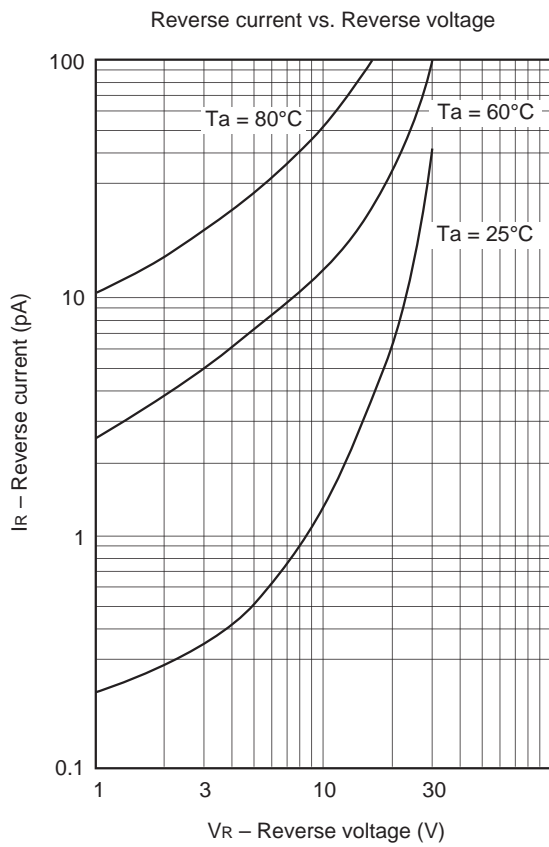
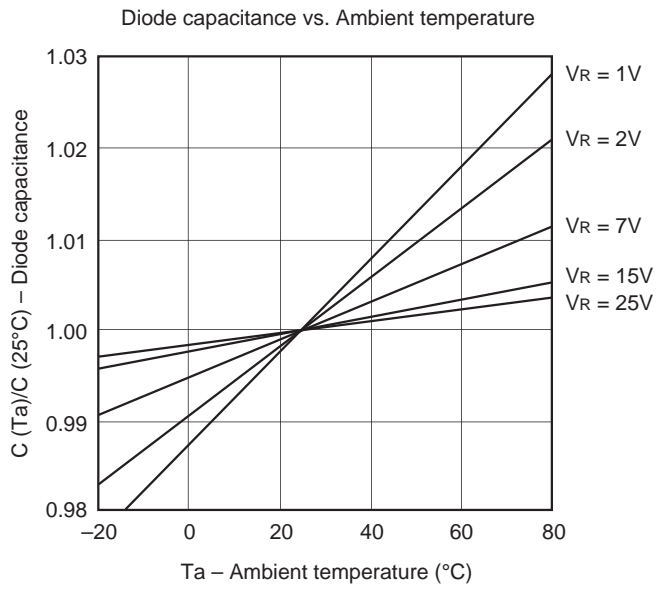
(T_a=25 °C)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Reverse current	I _R	V _R =28 V			10	nA
Diode capacitance	C ₂	V _R =2 V, f=1 MHz	29.50		35.50	pF
	C ₂₅	V _R =25 V, f=1 MHz	2.53		2.93	pF
Capacitance ratio	C ₂ /C ₂₅		11.0	11.7		
	C ₂₅ /C ₂₈		1.03			
Series resistance	r _s	C _D =14 pF, f=470 MHz			0.75	Ω
Capacitance deviation in a matching group	ΔC	V _R =2 to 25 V, f=1 MHz			2	%

Sony reserves the right to change products and specifications without prior notice. This information does not convey any license by any implication or otherwise under any patents or other right. Application circuits shown, if any, are typical examples illustrating the operation of the devices. Sony cannot assume responsibility for any problems arising out of the use of these circuits.

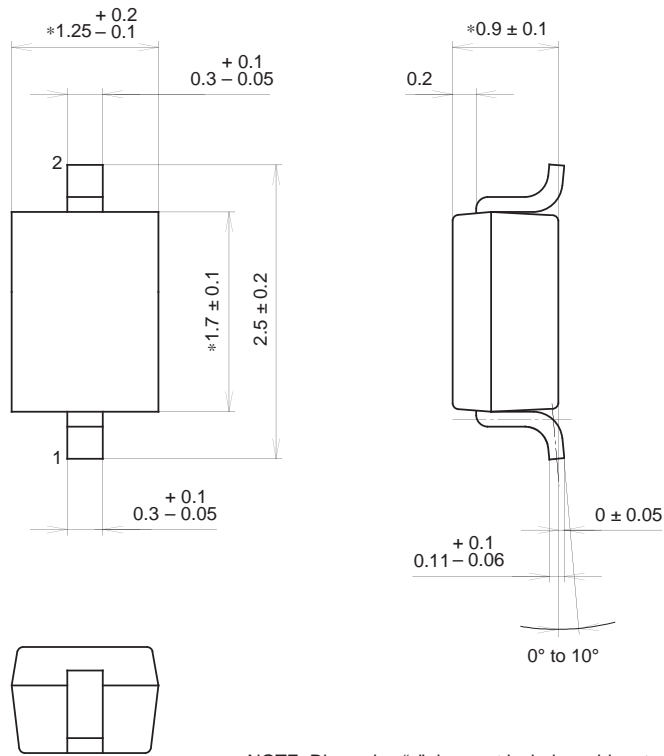
Example of Representative Characteristics





Package Outline Unit : mm

M-235

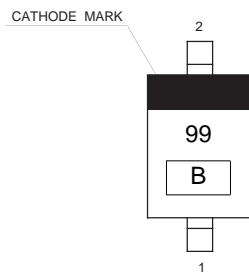


NOTE: Dimension "*" does not include mold protrusion.

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.)