

Silicon Variable Capacitance Diode

Description

The 1T369 is a super miniature package variable capacitance diode for a wide-band CATV.

Features

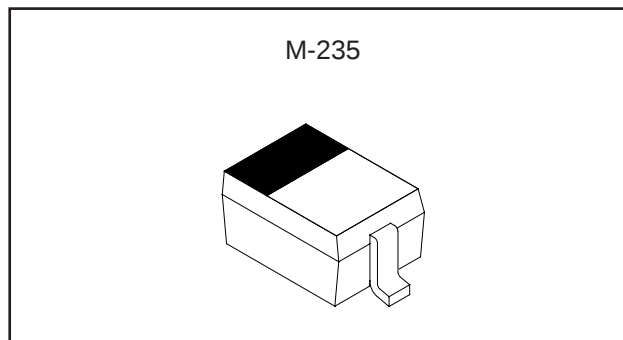
- Super miniature package
- Small series resistance $r_s=1.0\ \Omega$ (Max.)
- Large capacitance ratio $C_2/C_{25}=15.5$ (Typ.)
- Capacitance deviation in a matching group
2.0 % (Max.)

Applications

Electronic tuning of wide-band CATV

Structure

Silicon epitaxial planar type diode



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 |

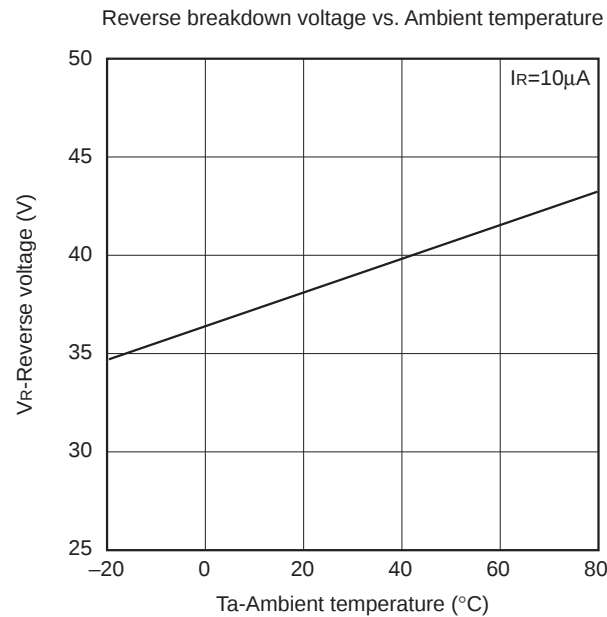
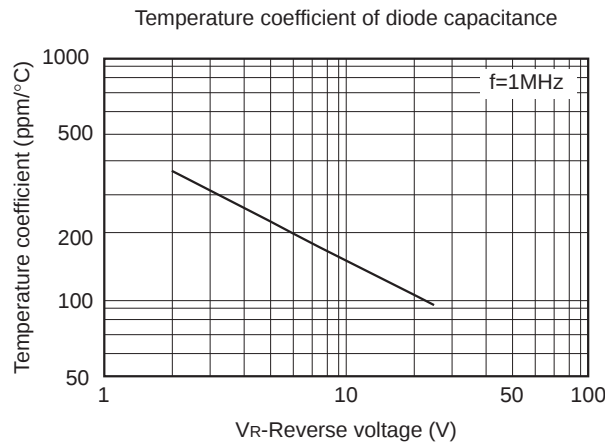
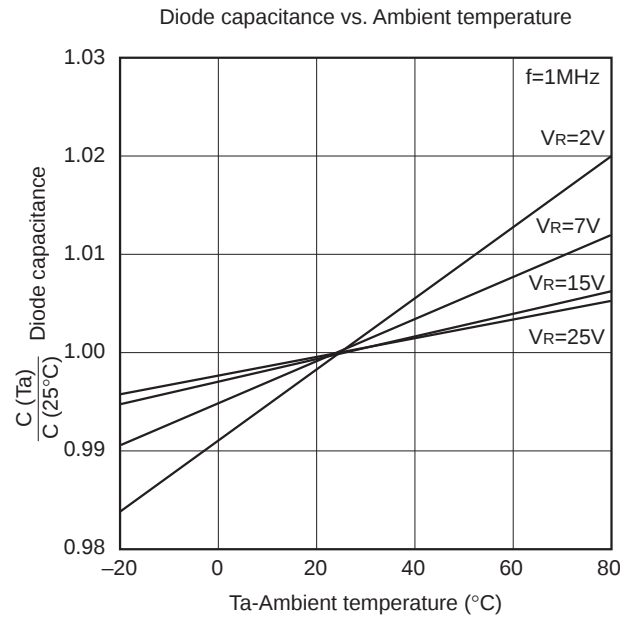
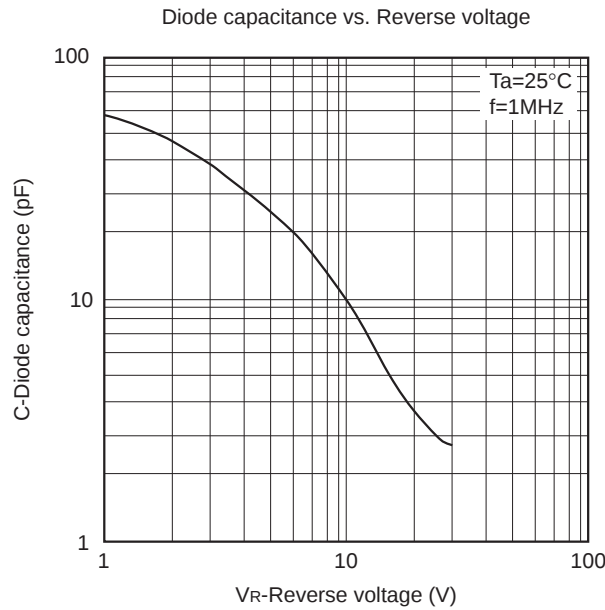
Electrical Characteristics

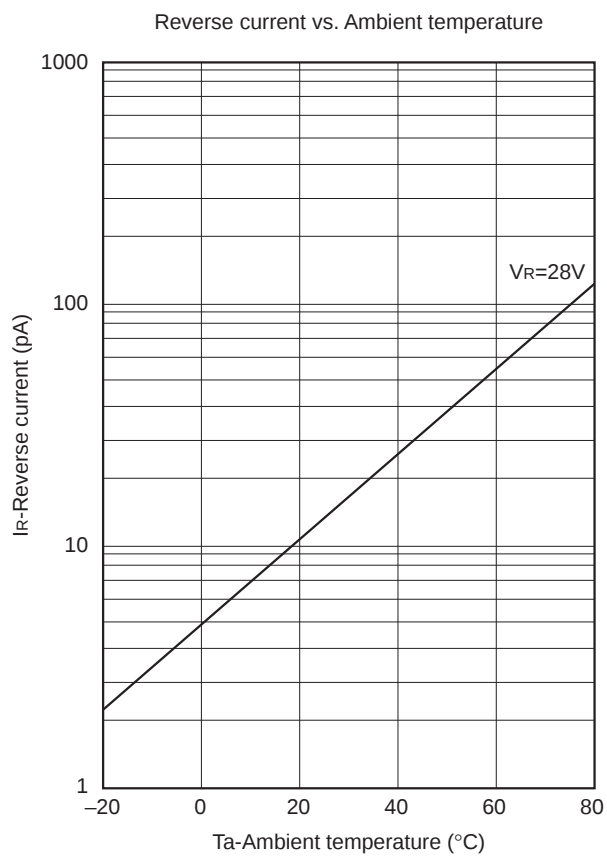
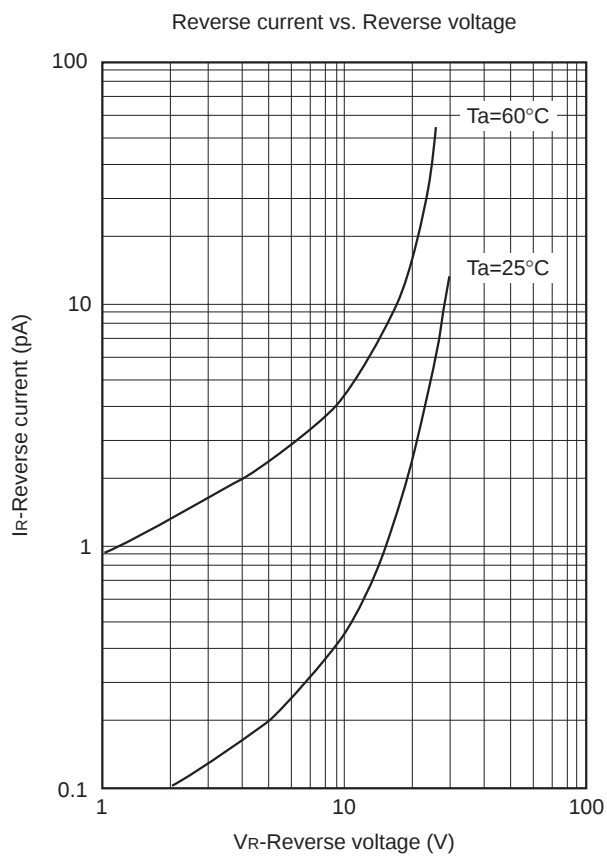
(Ta=25 °C)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Reverse current	I_R	$V_R=28\text{ V}$			10	nA
Reverse voltage	V_R	$I_R=1\ \mu\text{A}$	34			V
Diode capacitance	C_2	$V_R=2\text{ V}$, $f=1\text{ MHz}$	39.5	43.4	47.4	pF
	C_{25}	$V_R=25\text{ V}$, $f=1\text{ MHz}$	2.60	2.80	3.03	pF
Capacitance ratio	C_2/C_{25}		14.5	15.5	17.0	
Series resistance	r_s	$C_D=14\text{ pF}$, $f=470\text{ MHz}$			1.0	Ω
Capacitance deviation in a matching group	ΔC	C_2 to C_{25}			2.0	%

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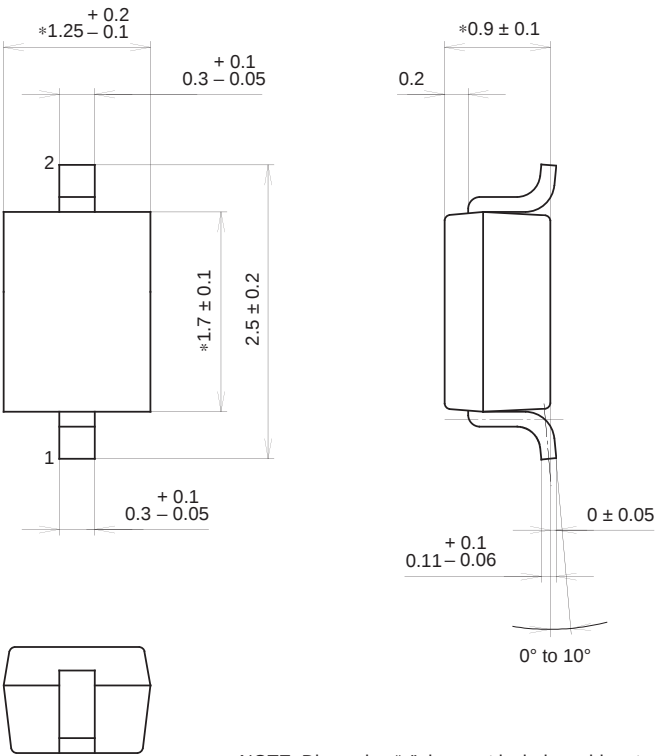
Example of Representative Characteristics





Package Outline Unit : mm

M-235

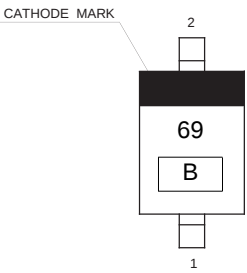


NOTE: Dimension "*" does not include mold protrusion.

SONY CODE	M-235
EIAJ CODE	—
JEDEC CODE	—

PACKAGE WEIGHT	0.1g
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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.)