

Variable Capacitance Diode

Description

The 1T368 is a variable capacitance diode contained in super miniature package, designed for wide band CATV.

Features

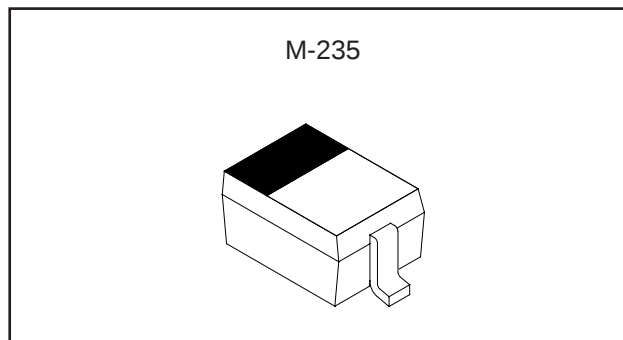
- Super miniature package
- Small series resistance $r_s=0.75\ \Omega$ (Max.)
- High capacitance ratio $C_2/C_{25}=11.5$ (Typ.)
- Capacitance deviation in a matching group
2.0 % (Max.)

Applications

Electronic tuning of wide band CATV

Structure

Silicon epitaxial planar type diode



Absolute Maximum Ratings (Ta=25 °C)

• Reverse voltage	V_R	30	V
• Operating temperature	T_{opr}	−20 to +75	°C
• Storage temperature	T_{stg}	−65 to +150	°C

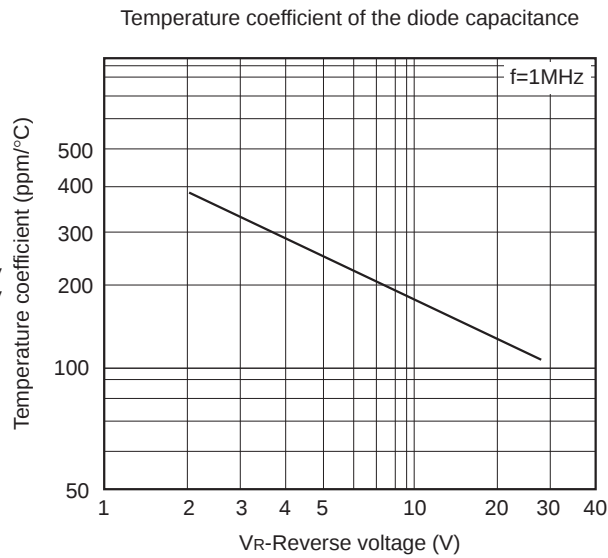
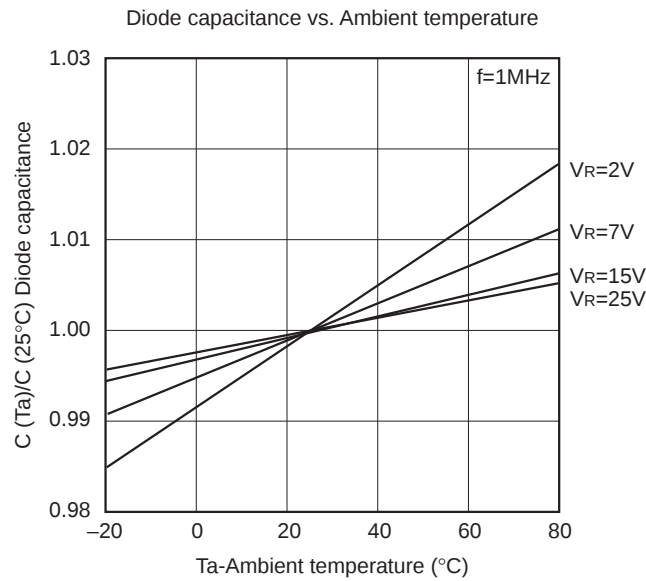
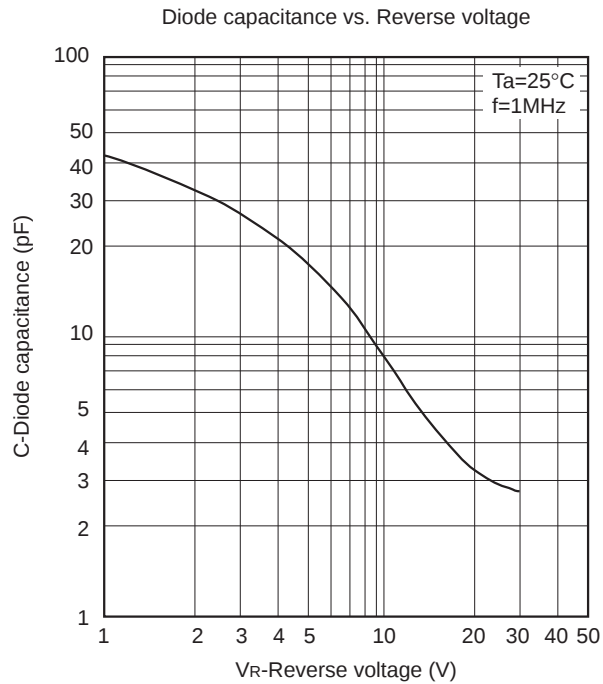
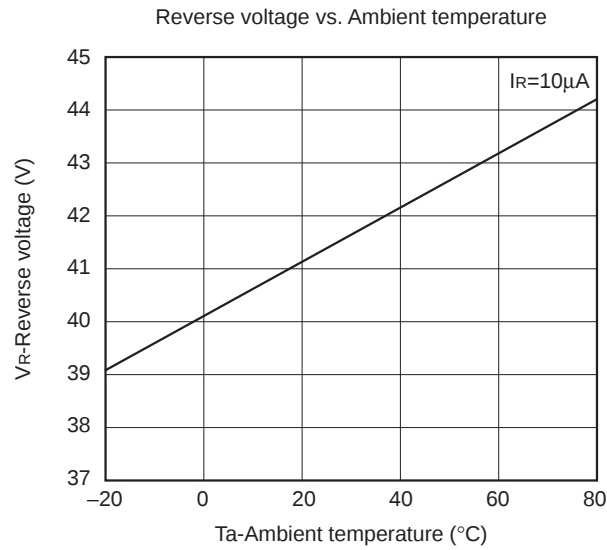
Electrical Characteristics

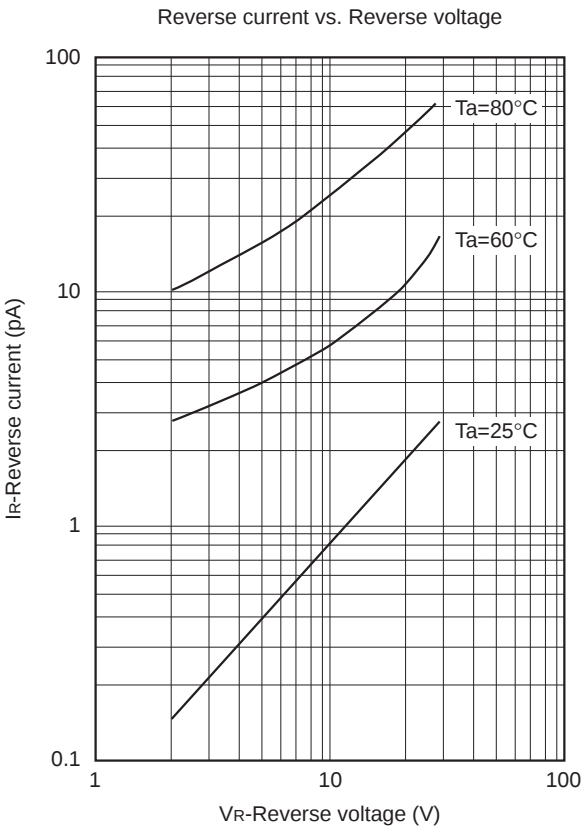
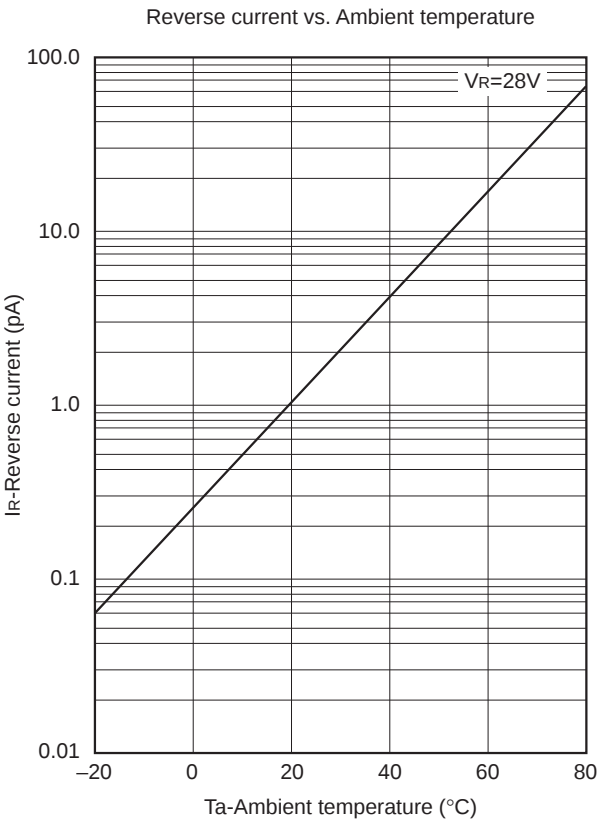
(Ta=25 °C)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Reverse current	I_R	$V_R=28\text{ V}$			10	nA
Diode capacitance	C_2	$V_R=2\text{ V}, f=1\text{ MHz}$	29.40		34.30	pF
	C_{25}	$V_R=25\text{ V}, f=1\text{ MHz}$	2.53		2.93	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	$V_R=2\text{ to }25\text{ V}$			2.0	%

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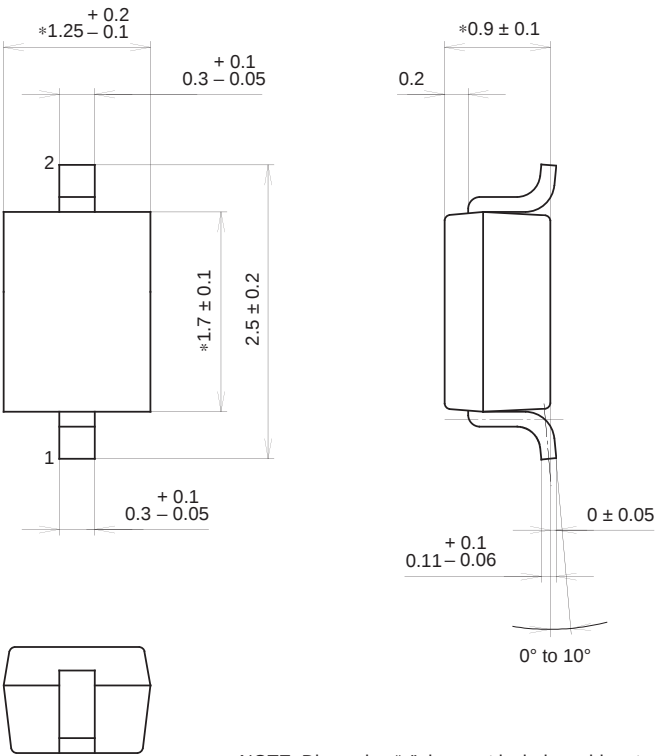
Example of Representative Characteristics





Package Outline Unit : mm

M-235

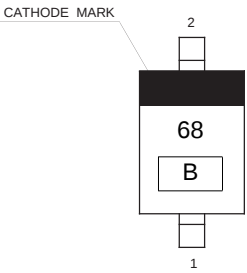


NOTE: Dimension "*" does not include mold protrusion.

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.)