

Silicon Variable Capacitance Diode

Description

The 1T362 is a variable capacitance diode designed for electronic tuning of TV tuners, and the super miniature package allows the tuner miniaturization.

Features

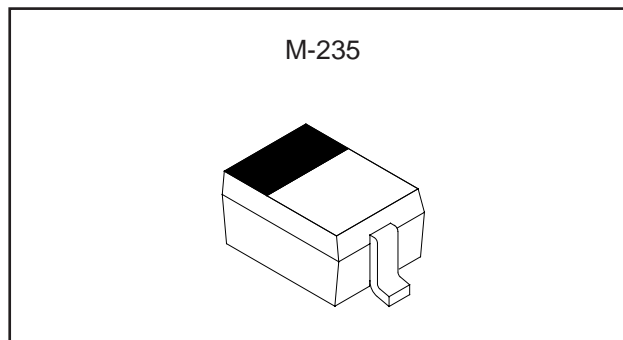
- Super miniature package
- Low series resistance 0.65 Ω Max. (f=470 MHz)
- Large capacitance ratio 6.5 Typ. (C<sub>2</sub>/C<sub>25</sub>)
- Small leakage current 10 nA Max. (V<sub>R</sub>=28 V)
- Maximum capacitance deviation  
3 % Max.

Applications

Electronic tuning for TV and CATV

Structure

Silicon epitaxial planar type diode



Absolute Maximum Ratings (T<sub>a</sub>=25 °C)

- Reverse voltage V<sub>R</sub> 30 V
- Peak reverse voltage V<sub>RM</sub> 35 V  
(R<sub>L</sub>≥10 kΩ)
- Operating temperature T<sub>opr</sub> 85 °C
- Storage temperature T<sub>stg</sub> -55 to +150 °C

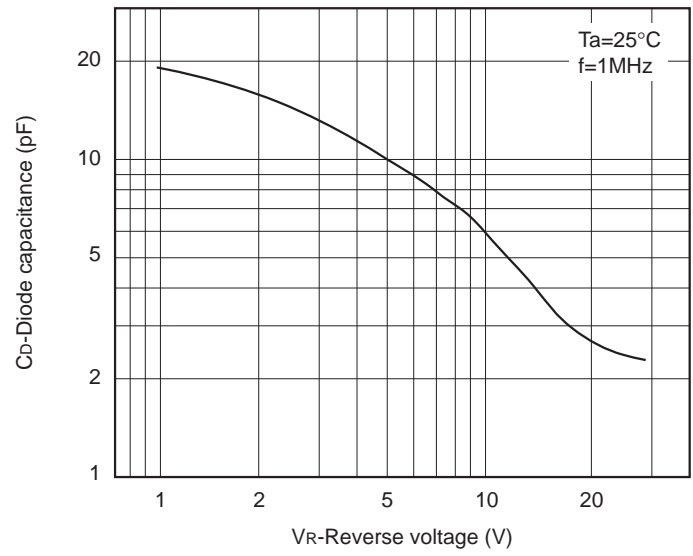
Electrical Characteristics

(T<sub>a</sub>=25 °C)

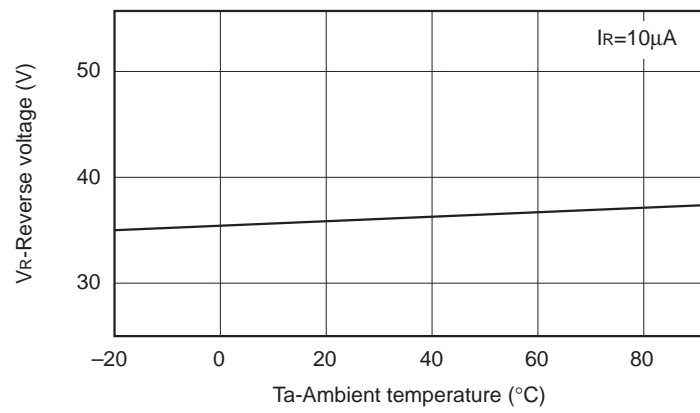
Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Reverse current	I <sub>R</sub>	V <sub>R</sub> =28 V			10	nA
Diode capacitance	C <sub>2</sub>	V <sub>R</sub> =2 V, f=1 MHz	14.01	15.00	16.33	pF
	C <sub>25</sub>	V <sub>R</sub> =25 V, f=1 MHz	2.10	2.27	2.39	pF
Capacitance ratio	C <sub>2</sub> /C <sub>25</sub>	f=1 MHz		6.5		
Series resistance	r <sub>s</sub>	C <sub>D</sub> =14 pF, f=470 MHz		0.57	0.65	Ω
Maximum-capacitance deviation in the same ranking	ΔC	V <sub>R</sub> =2 to 25 V, f=1 MHz			3	%

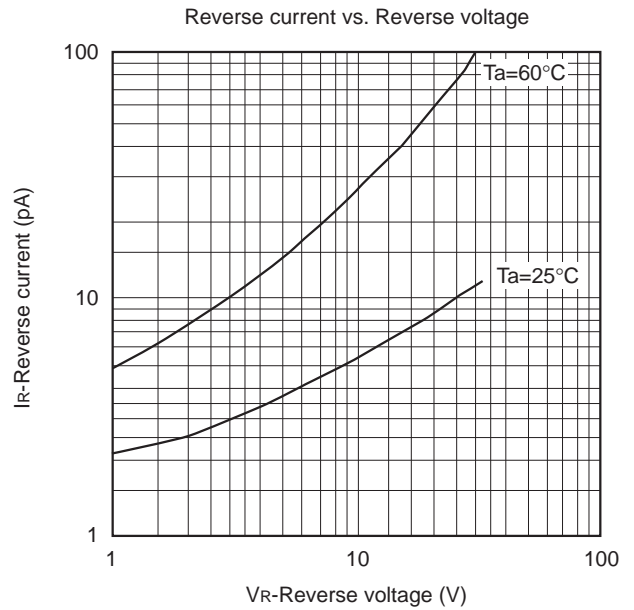
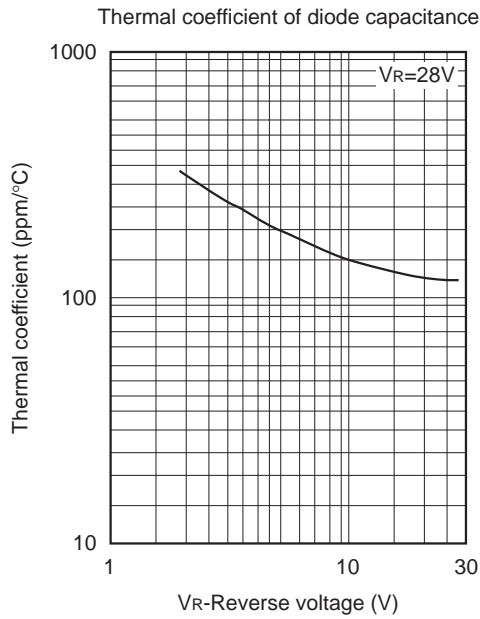
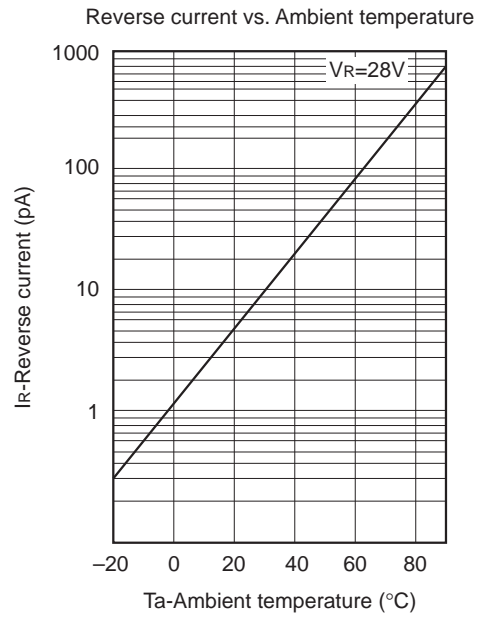
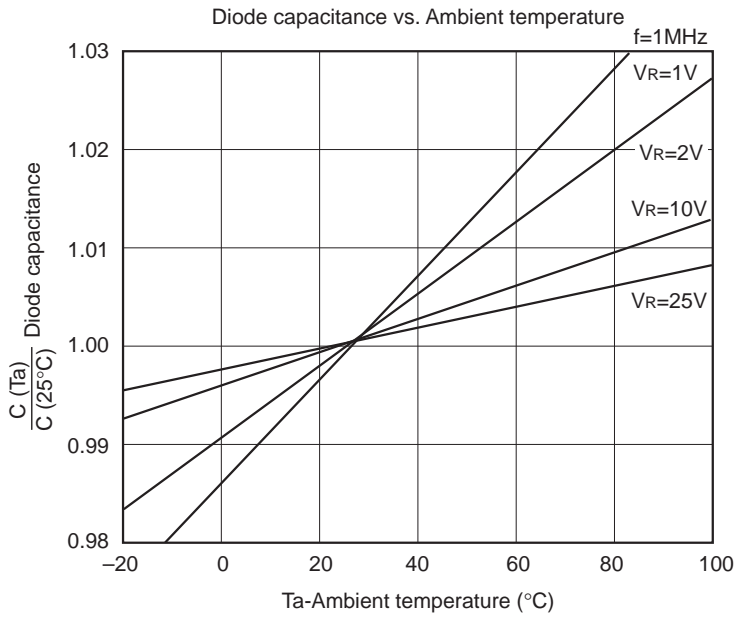
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Diode capacitance vs. Reverse voltage



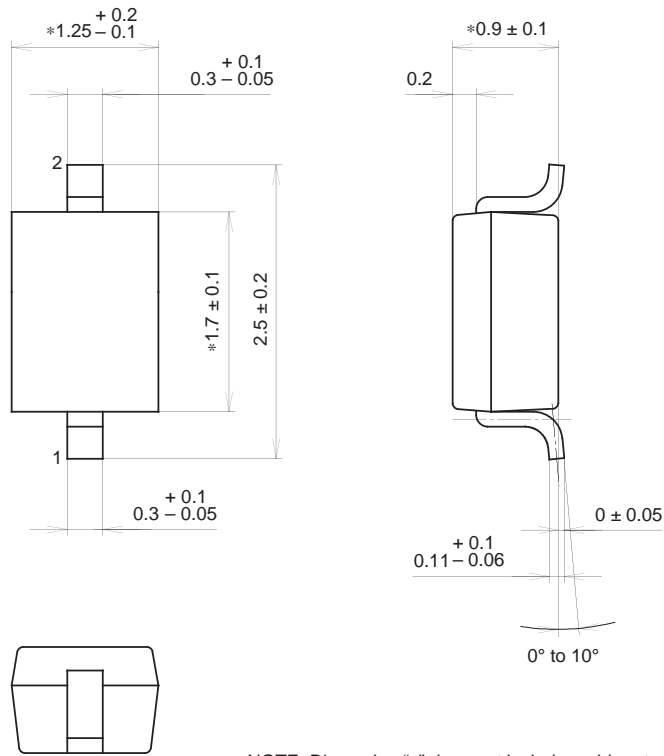
Reverse voltage vs. Ambient temperature





Package Outline Unit : mm

M-235

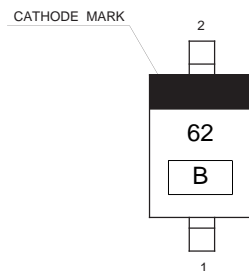


NOTE: Dimension "\*" does not include mold protrusion.

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.)