

Silicon Variable Capacitance Diode

Description

The 1T363 is a variable capacitance diode designed for electronic tuning of CATV tuner, and super miniature package allows the tuner miniaturization.

Features

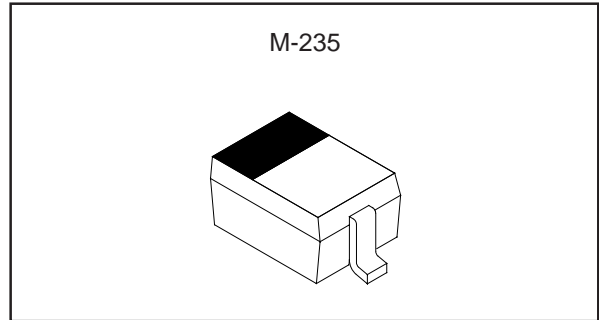
- Super miniature package
- Low series resistance 0.80 Ω Max. (f=470 MHz)
- Large capacitance ratio 15 Typ. (C<sub>1</sub>/C<sub>28</sub>)
- Small leakage current 10 nA Max. (V<sub>R</sub>=28 V)
- Maximum capacitance deviation  
3 % Max.

Applications

Electronic tuning for TV, CATV

Structure

Silicon epitaxial planar type diode



Absolute Maximum Ratings (Ta=25 °C)

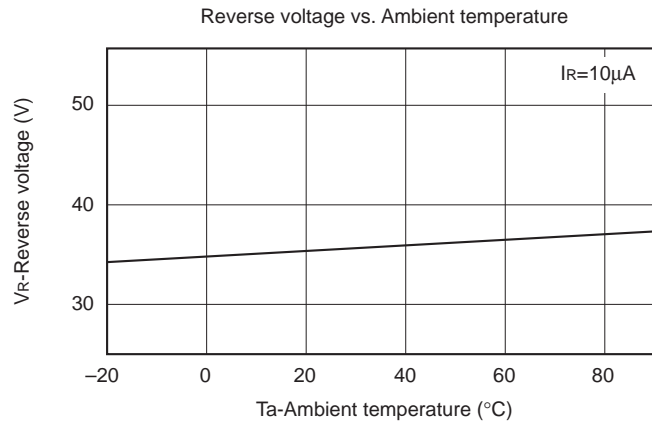
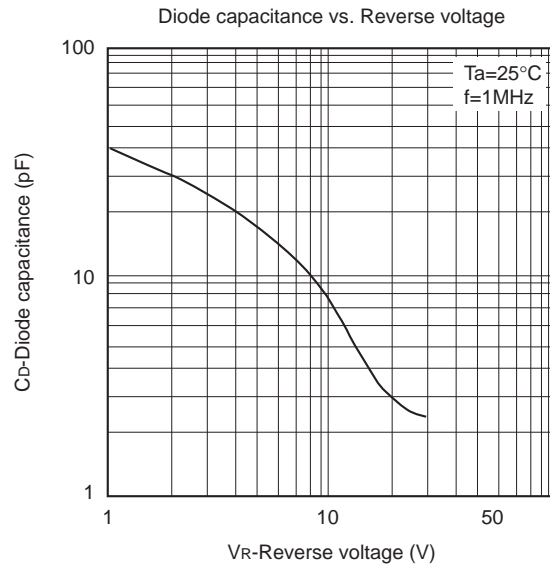
- Reverse voltage V<sub>R</sub> 30 V
- Peak reverse voltage V<sub>RM</sub> 35 V  
(R<sub>L</sub>≥10 kΩ)
- Operating temperature Topr 85 °C
- Storage temperature Tstg -55 to +150 °C

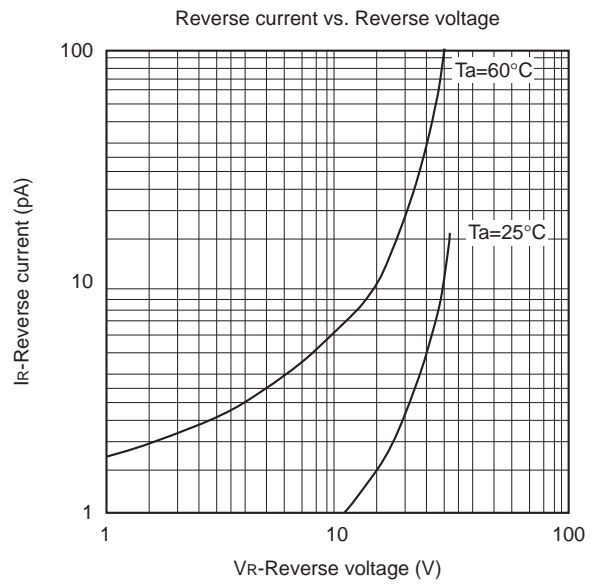
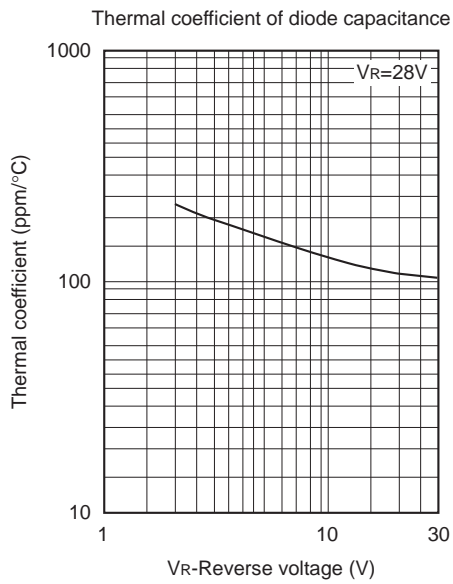
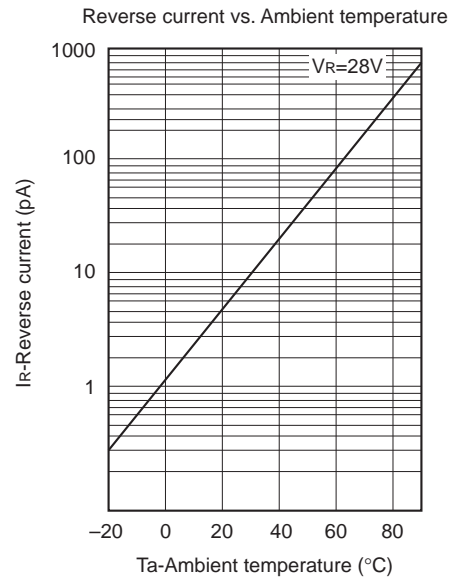
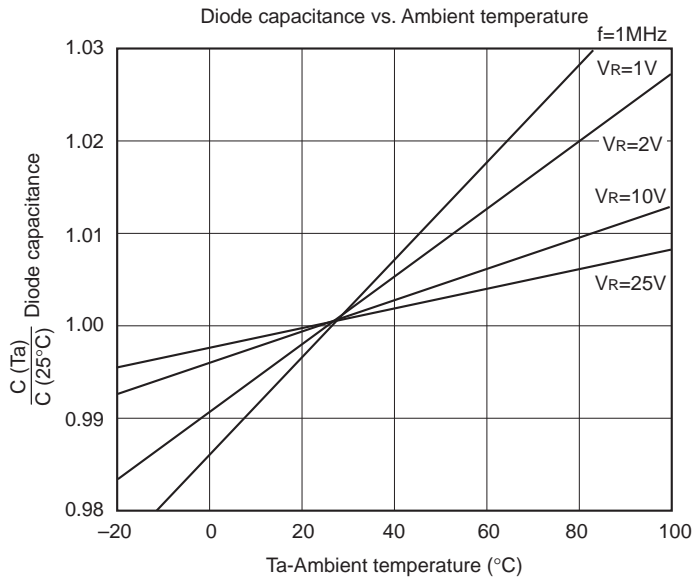
Electrical Characteristics

(Ta=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>1</sub>	V <sub>R</sub> =1 V, f=1 MHz	34.65	38.00	42.35	pF
	C <sub>28</sub>	V <sub>R</sub> =28 V, f=1 MHz	2.361	2.515	2.754	pF
Capacitance ratio	C <sub>1</sub> /C <sub>28</sub>	f=1 MHz	13.5	15.0		
Series resistance	r <sub>s</sub>	C <sub>D</sub> =14 pF, f=470 MHz		0.75	0.80	Ω
Maximum-capacitance deviation in the same ranking	ΔC	V <sub>R</sub> =1 to 28 V, f=1 MHz			3	%

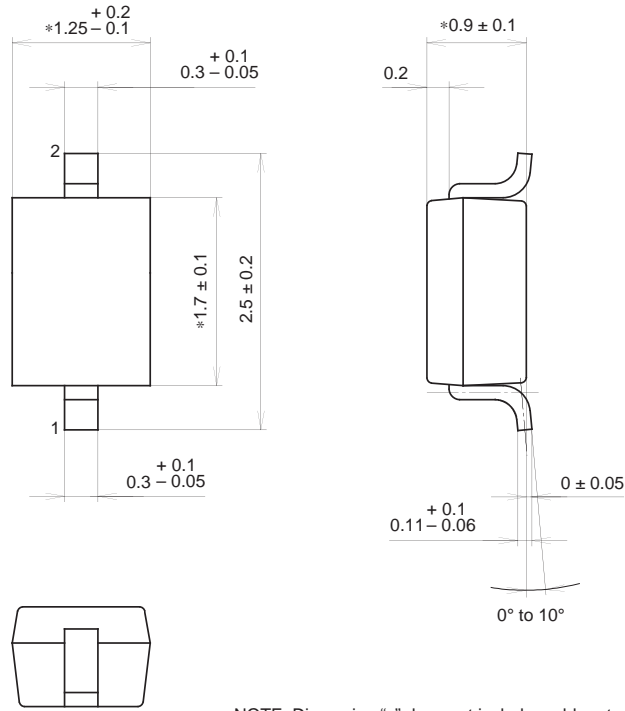
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Package Outline Unit : mm

M-235

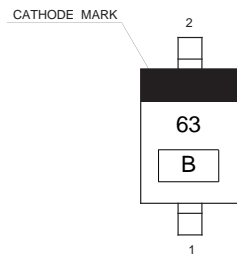


NOTE: Dimension "\*" does not include mold protrusion.

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.)