

Variable Capacitance Diode

Description

The 1T387 is a variable capacitance diode designed for electronic tuning of BS and CS tuners using a super miniature package (SMVC).

Features

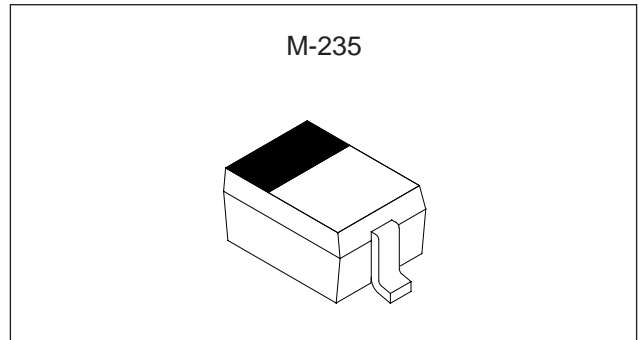
- Super miniature package
- Low series resistance: 1.5Ω Max. (f = 470MHz)
- Large capacitance ratio: 14.6 Typ. (C₁/C₂₅)
- Small leakage current: 10nA Max. (V_R = 25V)
- Capacitance deviation in a matching group: within 6%

Applications

Electronic tuning of BS and CS tuners

Structure

Silicon epitaxial planar type diode



Absolute Maximum Ratings (Ta = 25°C)

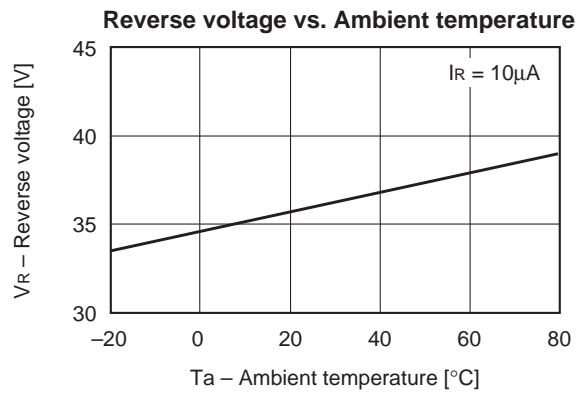
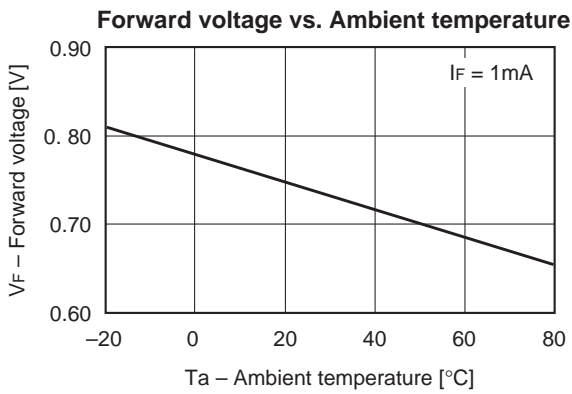
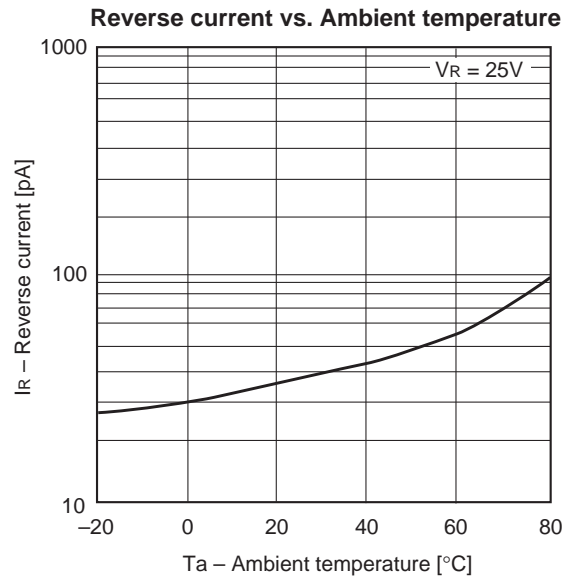
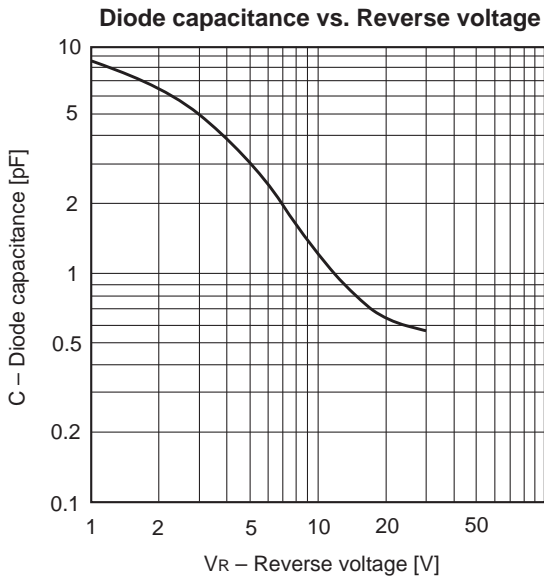
- Reverse voltage V_R 30 V
- Peak reverse voltage V_{RM} 35 V (R_L ≥ 10kΩ)
- Operating temperature Topr -20 to +75 °C
- Storage temperature Tstg -65 to +150 °C

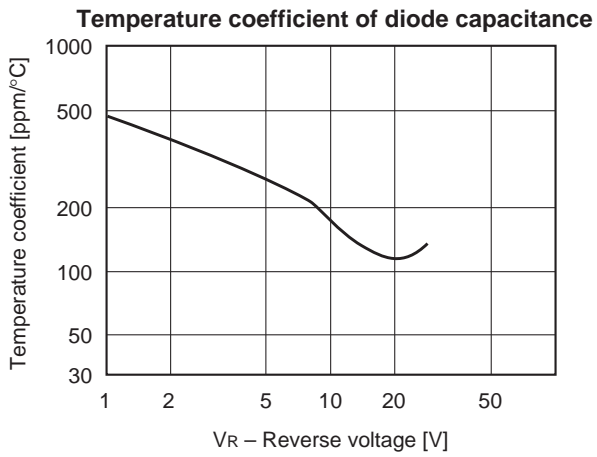
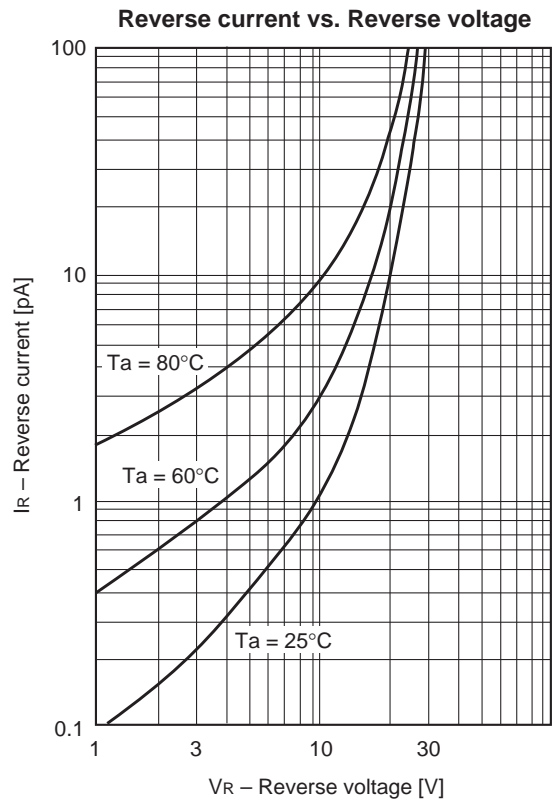
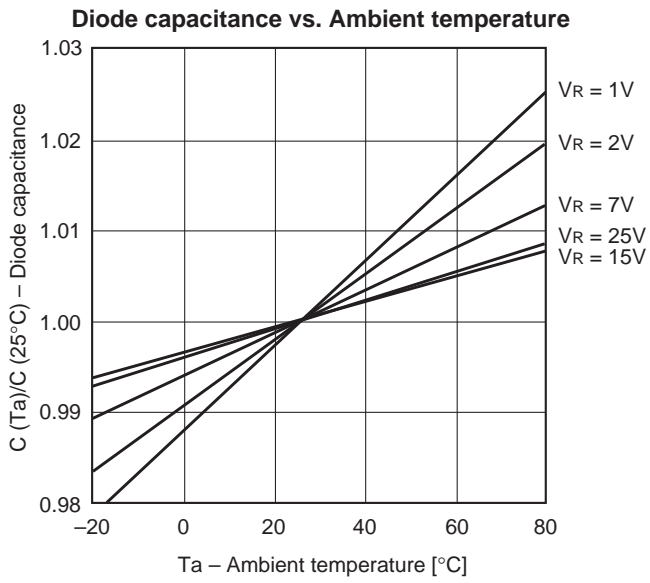
Electrical Characteristics

(Ta = 25°C)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Reverse voltage	V _R	I _R = 1μA	30.0			V
Reverse current	I _R	V _R = 25V			10.0	nA
Diode capacitance	C ₁	V _R = 1V, f = 1MHz	7.84		9.44	pF
	C ₂₅	V _R = 25V, f = 1MHz	0.54		0.64	pF
Capacitance ratio	C ₁ /C ₂₅		12.2	14.6		
Series resistance	r _s	V _R = 5V, f = 470MHz		1.30	1.50	Ω
Capacitance deviation in a matching group	ΔC	V _R = 1 to 25V, f = 1MHz			6.0	%

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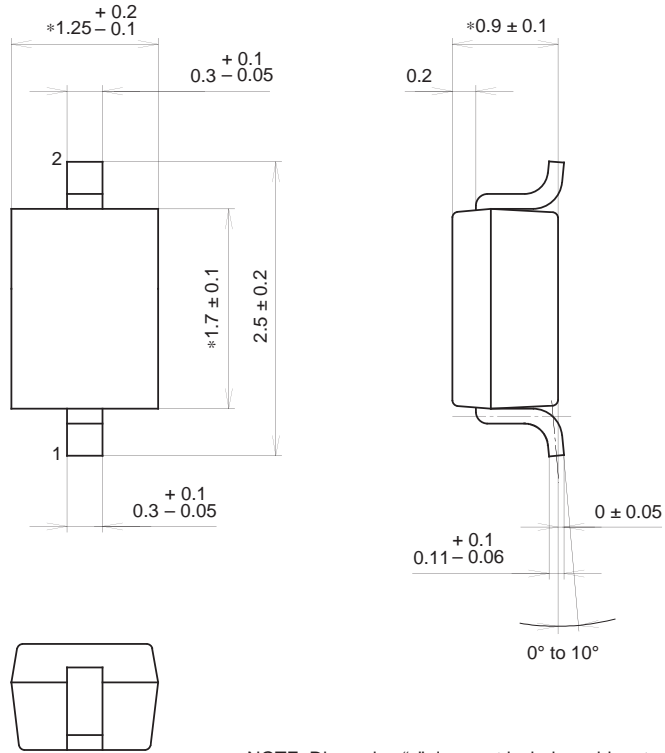




Package Outline

Unit: mm

M-235

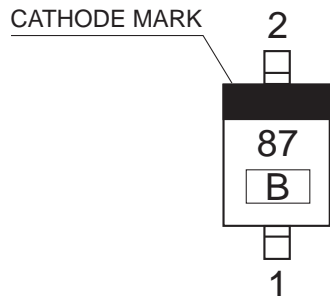


NOTE: Dimension "*" does not include mold protrusion.

SONY CODE	M-235
EIAJ CODE	_____
JEDEC CODE	_____

PACKAGE WEIGHT	0.1g
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Marking



Note
 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.)