

Silicon Variable Capacitance Diode

Description

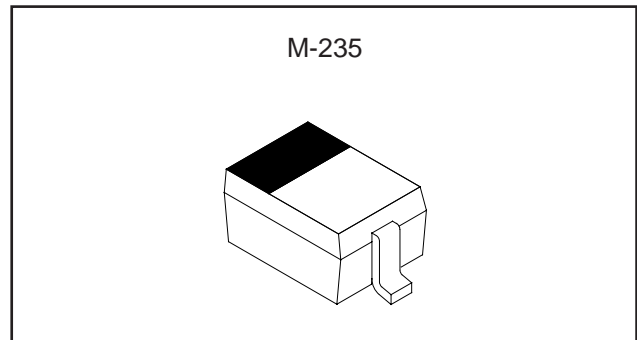
The 1T365 is a variable capacitance diode contained in super miniature package, and used for electronic-tuning of BS tuner.

Features

- Super miniature package
- Small capacitance 0.7 pF Typ. ($V_R=25\text{ V}$)
- Low leakage current 10 nA Max. ($V_R=28\text{ V}$)
- Small serial resistance 1.1 Ω Typ.
($V_R=1\text{ V}$, $f=470\text{ MHz}$)

Structure

Silicon epitaxial planar type diode



Absolute Maximum Ratings ($T_a=25\text{ }^\circ\text{C}$)

- Reverse voltage V_R 30 V
- Maximum reverse voltage V_{RM} 35 V
($R_L \geq 10\text{ k}\Omega$)
- Operating temperature T_{op} $-20\text{ to }+75\text{ }^\circ\text{C}$
- Storage temperature T_{stg} $-65\text{ to }+150\text{ }^\circ\text{C}$

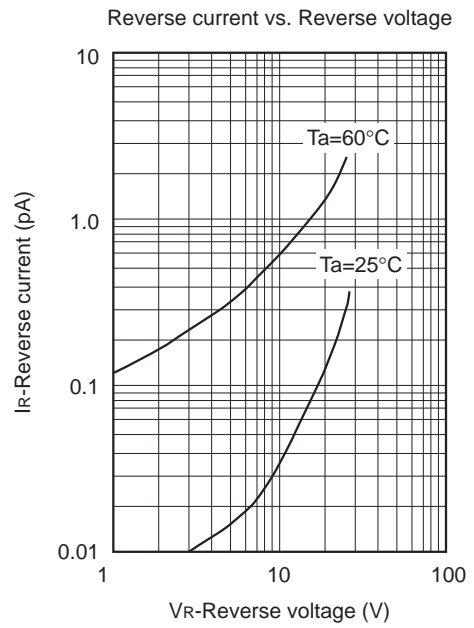
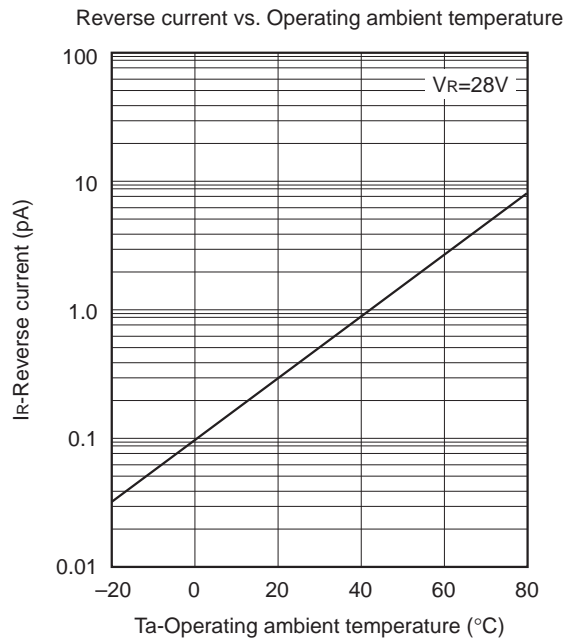
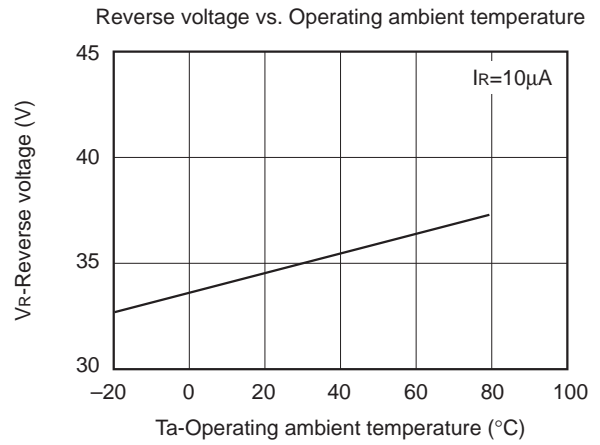
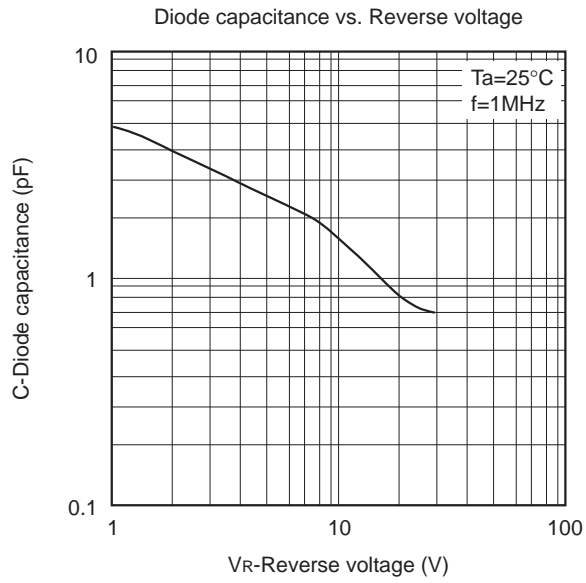
Electrical Characteristics

($T_a=25\text{ }^\circ\text{C}$)

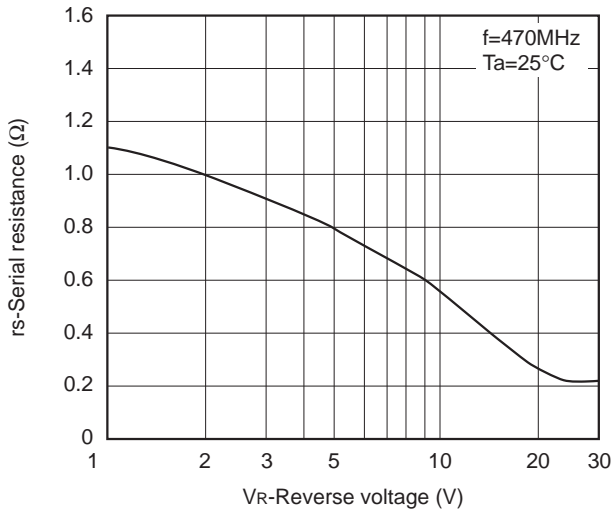
Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Reverse current	I_R	$V_R=28\text{ V}$			10	nA
Diode capacitance	C_2	$V_R=2\text{ V}$, $f=1\text{ MHz}$	3.31		4.55	pF
	C_{25}	$V_R=25\text{ V}$, $f=1\text{ MHz}$	0.61	0.70	0.77	pF
Capacitance ratio	C_2/C_{25}		5.0	5.7		
Serial resistance	r_s	$V_R=1\text{ V}$, $f=470\text{ MHz}$		1.1	1.8	Ω
Capacitance deviation in a matching group	ΔC	$V_R=2\text{ to }25\text{ V}$, $f=1\text{ MHz}$			5.0	%

Sony reserves the right to change products and specifications without prior notice. This information does not convey any license by any implication or otherwise under any patents or other right. Application circuits shown, if any, are typical examples illustrating the operation of the devices. Sony cannot assume responsibility for any problems arising out of the use of these circuits.

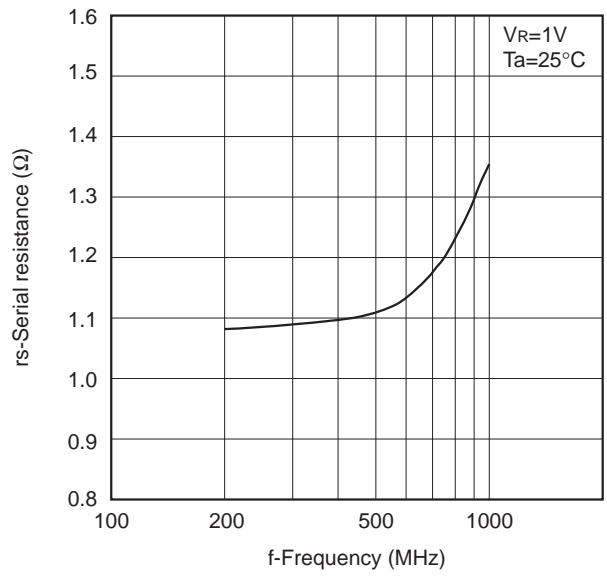
Example of Representative Characteristics



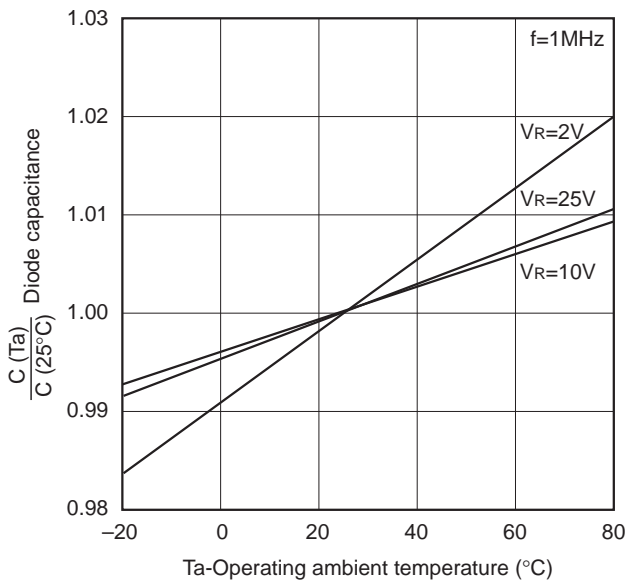
Serial resistance vs. Reverse voltage



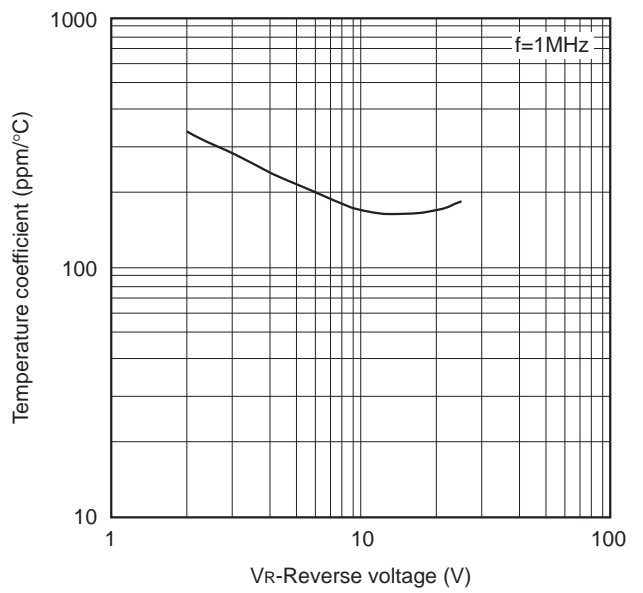
Serial resistance vs. Frequency



Diode capacitance vs. Operating ambient temperature

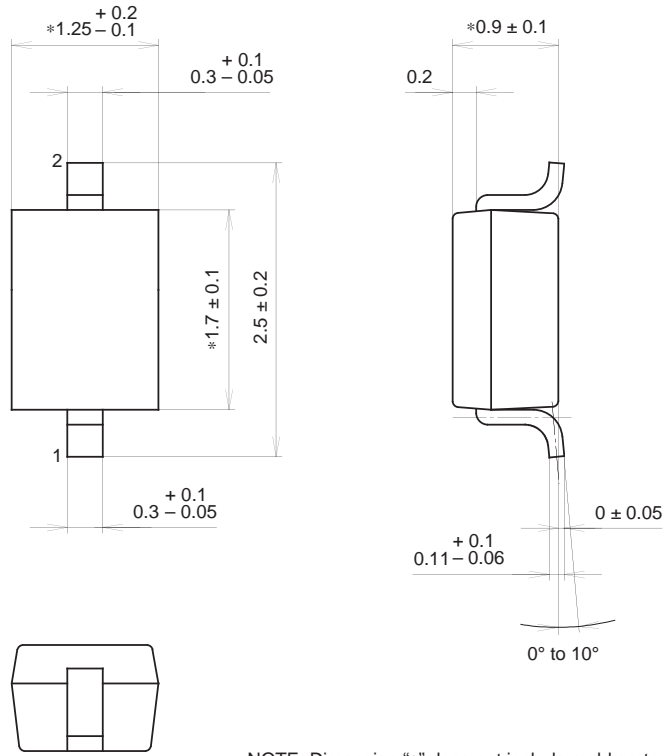


Temperature coefficient of diode capacitance



Package Outline Unit : mm

M-235

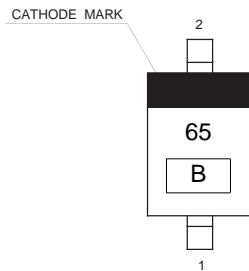


NOTE: Dimension "*" does not include mold protrusion.

SONY CODE	M-235
EIAJ CODE	_____
JEDEC CODE	_____

PACKAGE WEIGHT	0.1g
----------------	------

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.)