

SONY. **1T32/1T32A**

Silicon Variable Capacitance Diode T-07-19

Description

The 1T32/1T32A is a variable capacitance diode designed for use in electric tuning for UHF, VHF and TV tuner, and AFT which make their packages more compact so as to match tuner miniaturization easily, keeping excellent characteristics of former 1T25 type.

Features

- Compact package
- Low serial resistance 0.52Ω Typ. (f = 470 MHz)
- Large capacitance ratio 6.5 Typ. (C₂/C_{2d})
- Small leakage current 10 nA Max. (VR = 28V)
- 1T32(A)-T7, 1T32(A)-T8 is for taping.

Structure

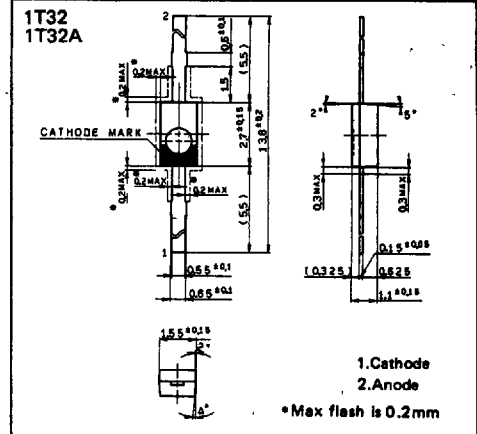
Silicon epitaxial planar type diode

Applications

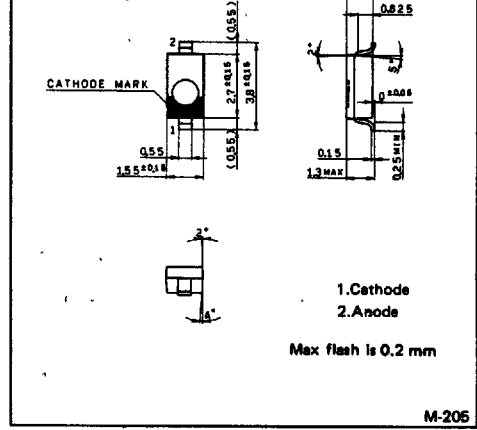
Electric tuning for UHF, VHF or TV tuner, or AFT

Package Outline

Unit: mm



For taping



Absolute Maximum Ratings (Ta = 25°C)

• Reverse voltage	VR	30	V
• Peak reverse voltage	VRM	35	V (RL ≧ 10 kΩ)
• Operating temperature	Topr	85	°C
• Storage temperature	Tstg	-30 to +120	°C

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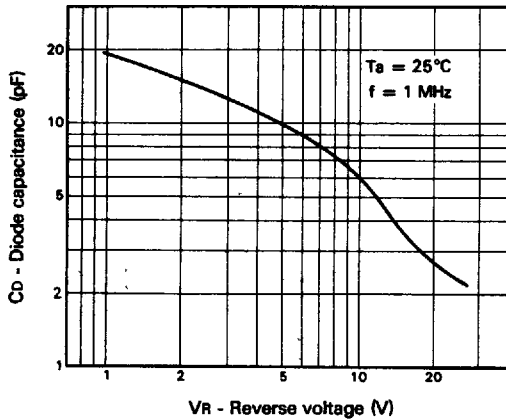
Electrical Characteristics

Ta = 25°C

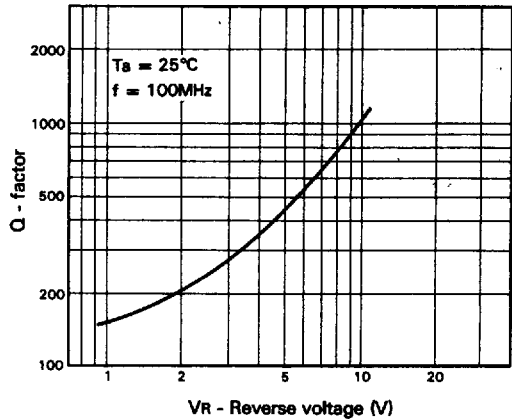
Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse current	I_R	$V_R = 28V$			10	nA
Diode capacitance	C_2	$V_R = 2V, f = 1\text{ MHz}$	14.01	15.00	16.33	pF
	C_{25}	$V_R = 25V, f = 1\text{ MHz}$	2.10	2.27	2.39	pF
Serial resistance	r_s	$C_D = 14\text{ pF}, f = 470\text{ MHz}$		0.52	0.6	Ω
Maximum-capacitance deviation in the Same ranking*	ΔC	$V_R = 2\text{ to }25V$			3 (1T32) 2 (1T32A)	%

*Note) Applied only to tuning.

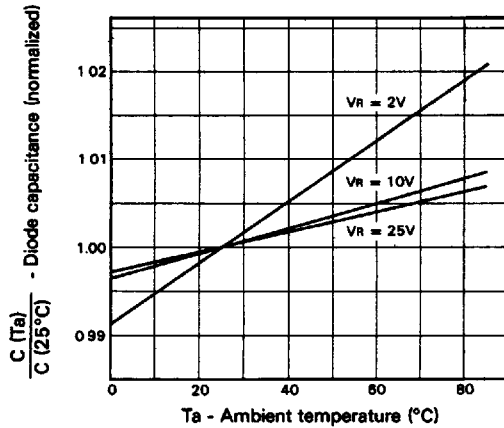
Diode capacitance vs. Reverse voltage



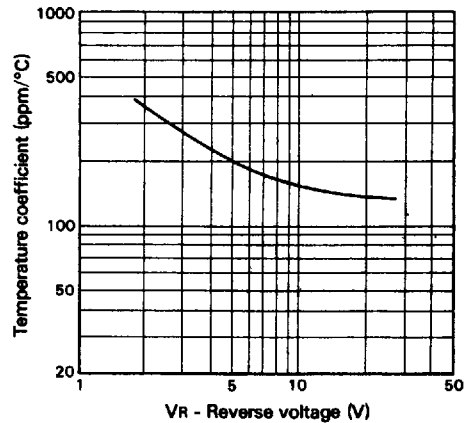
Q - factor vs. Reverse voltage



Diode capacitance vs. Ambient temperature



Temperature coefficient of the diode capacitance

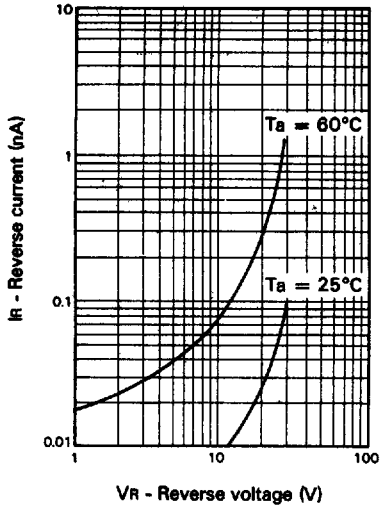


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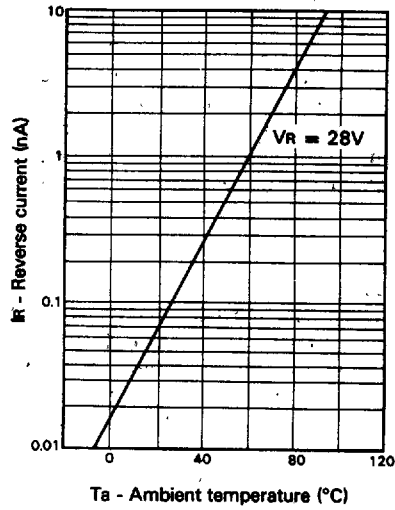
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Reverse current vs. Reverse voltage



Reverse current vs. Ambient temperature



Reverse breakdown voltage vs. Ambient temperature

