

SILICON TUNING DIODES

... designed for electronic tuning of AM receivers and high capacitance, high tuning ratio applications.

- High Capacitance Ratio — $C_R = 15$ (Min), MVAM108, 115, 125
- Guaranteed Diode Capacitance — $C_t = 440$ pF (Min) — 560 pF (Max) @ $V_R = 1.0$ Vdc, $f = 1.0$ MHz, MVAM108, MVAM115, MVAM125
- Guaranteed Figure of Merit — $Q = 150$ (Min) @ $V_R = 1.0$ Vdc, $f = 1.0$ MHz

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	12	Volts
	MVAM108	15	
	MVAM109	18	
	MVAM115	28	
	MVAM125		
Forward Current	I_F	50	mA
Power Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	280	mW
		2.8	mW/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-55 to +125	°C

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted, Each Device)

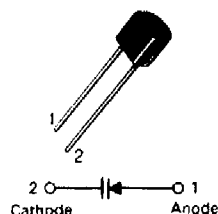
Characteristic	Symbol	Min	Typ	Max	Unit
Breakdown Voltage ($I_R = 10 \mu\text{Adc}$)	$V_{(BR)R}$	12	—	—	Vdc
	MVAM108	15	—	—	
	MVAM109	18	—	—	
	MVAM115	28	—	—	
	MVAM125				
Reverse Current ($V_R = 8.0$ V) ($V_R = 9.0$ V) ($V_R = 15$ V) ($V_R = 25$ V)	I_R	—	—	100	nAdc
	MVAM108	—	—	100	
	MVAM109	—	—	100	
	MVAM115	—	—	100	
	MVAM125	—	—	100	
Diode Capacitance Temperature Coefficient (1) ($V_R = 1.0$ Vdc, $f = 1.0$ MHz, $T_A = -40^\circ\text{C}$ to $+85^\circ\text{C}$)	TC_C	—	435	—	ppm/°C
Case Capacitance ($f = 1.0$ MHz, Lead Length 1/16")	C_C	—	0.18	—	pF
Diode Capacitance (2) ($V_R = 1.0$ Vdc, $f = 1.0$ MHz)	C_t	440	500	560	pF
	MVAM108, 115, 125	400	460	520	
Figure of Merit ($f = 1.0$ MHz, Lead Length 1/16", $V_R = 1.0$ Vdc)	Q	150	—	—	—
Capacitance Ratio ($f = 1.0$ MHz)					—
	MVAM108	C_1/C_8	15	—	—
	MVAM109	C_1/C_9	12	—	—
	MVAM115	C_1/C_{15}	15	—	—
	MVAM125	C_1/C_{25}	15	—	—

NOTES:

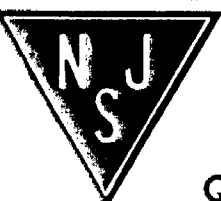
- 1 The effect of increasing temperature 1.0°C , at any operating point, is equivalent to lowering the effective tuning voltage 1.25 mV. The percent change of capacitance per $^\circ\text{C}$ is nearly constant from -40°C to $+100^\circ\text{C}$.
- 2 Upon request, diodes are available in matched sets. All diodes in a set can be matched for capacitance to 3% or 2.0 pF (whichever is greater) at all points along the specified tuning range.

MVAM108★
MVAM109★
MVAM115★
MVAM125★

(TO-226Ac)



**TUNING DIODES
WITH VERY HIGH
CAPACITANCE RATIO**



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