

Dual Anti- Parallel Pair PIN Diode

MA44781

V2

Features

- Surface Mount Packages
- Anti-Parallel Pair Construction
- SPC Process for Superior C-V Repeatability
- Designed for MRI applications
- Lead-Free (RoHs Compliant) equivalents available with 260°C reflow compatibility

Description

The MA44781 is a silicon PIN diodes in surface mount packages. There are two sets of two PIN diode pairs constructed in opposing configurations. The package is sealed with a non-conductive epoxy resin and is suitable for surface mount applications.

Applications

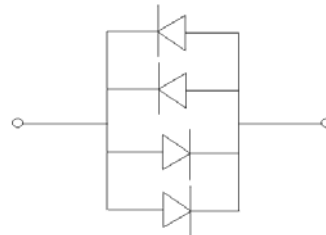
The MA44781 Device is well suited for MRI Passive switching applications. The PIN Diodes become high Q, R-C elements under small signal and behave as effective passive rectifiers or short circuits under high RF Signal to tune and de-tune the resonant MRI tank circuit. The anti-parallel doublet arrangement provides for more efficient RF power handling.

Absolute Maximum Ratings @ $T_A = +25^\circ\text{C}$ (Unless Otherwise Noted)¹

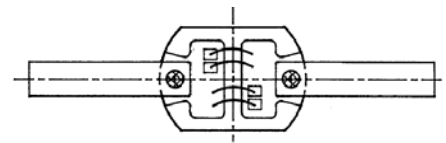
Parameter	Absolute Maximum
Reverse Voltage	60V
Forward Current (per each diode)	100 mA ³
Total Power Dissipation ²	250 mW
Operating Temperature	-55 °C to +125 °C
Storage Temperature	-55 °C to +125 °C

1. Operation of this device above any one of these parameters may cause permanent damage.
2. Please refer to application note M538 for surface mounting instructions
3. Total current per diode= I (rms) + I (dc) @ +25C

Schematic



Internal Construction



Electrical Specifications @ $T_A = +25^\circ\text{C}$

Breakdown Voltage @ $I_R = 10\mu\text{A}$, $V_b = 60\text{V}$ Minimum

Part Number	Junction Capacitance (per diode)	Forward Voltage	Delta Forward Voltage	Total Capacitance
	f=1MHz $V_r = -6.0\text{V}$	$I_f = 20\mu\text{A}$	$I_f = 20\mu\text{A}$ (between each diodes)	$V_r = 0\text{V}$
	(pF)	(V)	(mV)	(pF)
	MA44781	0.15-0.50pF	0.500-0.780	+/-30mV
				1.5-3.5

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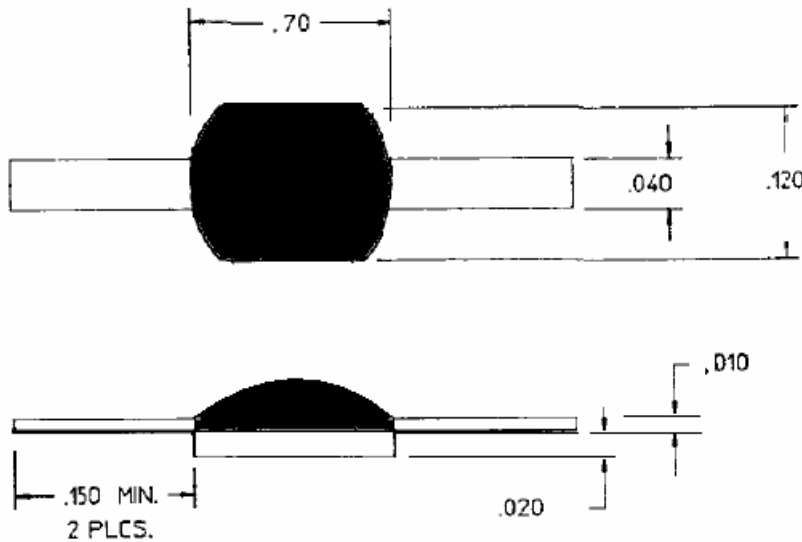
Visit www.macom.com for additional data sheets and product information.

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Case Style



Units (inches)

ODS-1134