MA44781

Dual Pair Anti-Parallel Non-Magnetic PIN Diode
RoHS Compliant

Rev. V3

Features

- Designed for MRI applications
- Anti-Parallel Self Bias Arrangement
- Non-Magnetic Surface Mount Package
- SPC Process for Superior Parametric Repeatability
- RoHs Compliant with 260℃ reflow compatibility

Description

The MA44781 device acts as a Passive Switch using silicon PIN diodes in surface mount package.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

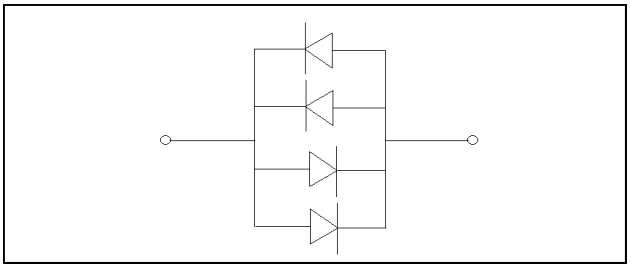
The MA44781 Device is well suited for MRI Passive switching applications. The PIN Diodes become a high Q, R-C network under small signal and behave as an effective passive rectifier or short circuit under high RF Signal to tune and de-tune the resonant MRI tank circuit. The anti-parallel doublet arrangement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

Absolute Maximum Ratings @ T_A=+25 ℃ (Unless Otherwise Noted) [1]

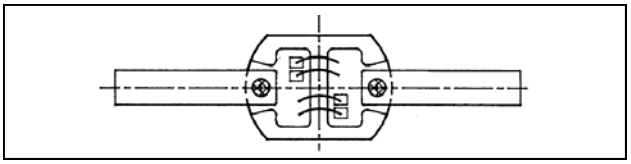
Parameter	Absolute Maximum
Reverse Voltage	60V
Forward Current (per diode pair) [3]	2A
Power Dissipation (per diode) [2]	1.7 W
Operating Temperature	-55 ℃ to +125 ℃
Storage Temperature	-55 ℃ to +125 ℃
Junction Temperature	+175 ℃

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 ℃

Breakdown Voltage @ I_R = 10μA, V_b = 60V Minimum

Part Number	Junction Capacitance (per diode)	Forward Voltage	Delta Forward Voltage	Total Capacitance
	f=1MHz Vr=-6.0V	If = 20uA	If=20uA (between each diodes)	Vr=0V
	(pF)	(V)	(mV)	(pF)
MA44781	0.15 - 0.50pF	0.500 - 0.780	+/-30 mV	1.5 - 3.5

- **North America** Tel: 800.366.2266 / Fax: 978.366.2266
- **Europe** Tel: 44.1908.574.200 / Fax: 44.1908.574.300
- **Asia/Pacific** Tel: 81.44.844.8296 / Fax: 81.44.844.8298

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

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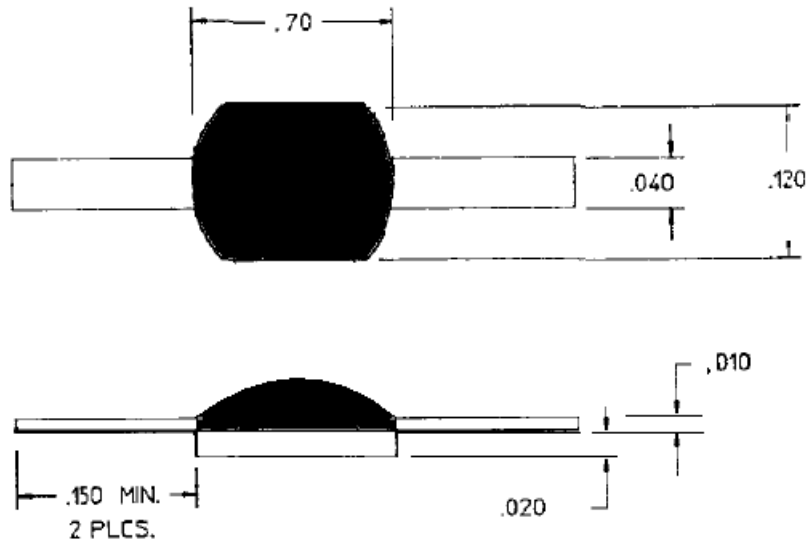
Case Style 1134



ODS-1134

Units (inches)

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