

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

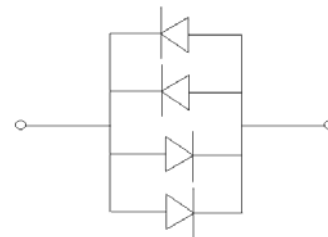
The MA44781 Device is well suited for MRI Passive switching applications. The PIN Diodes become high Q, R-C elements under small signal and behave as effective passive rectifiers or short circuits under high RF Signal to tune and de-tune the resonant MRI tank circuit. The anti-parallel doublet arrangement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

Absolute Maximum Ratings @ T_A=+25 °C (Unless Otherwise Noted)¹

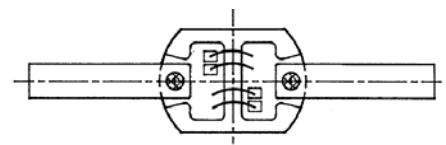
Parameter	Absolute Maximum
Reverse Voltage	60V
Forward Current (per each diode)	100 mA ³
Total Power Dissipation ²	250 mW
Operating Temperature	-55 °C to +125 °C
Storage Temperature	-55 °C to +125 °C

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 °C

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	+/-30mV	1.5-3.5

1

M/A-COM Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. M/A-COM makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does M/A-COM assume any liability whatsoever arising out of the use or application of any product(s) or information.

- **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

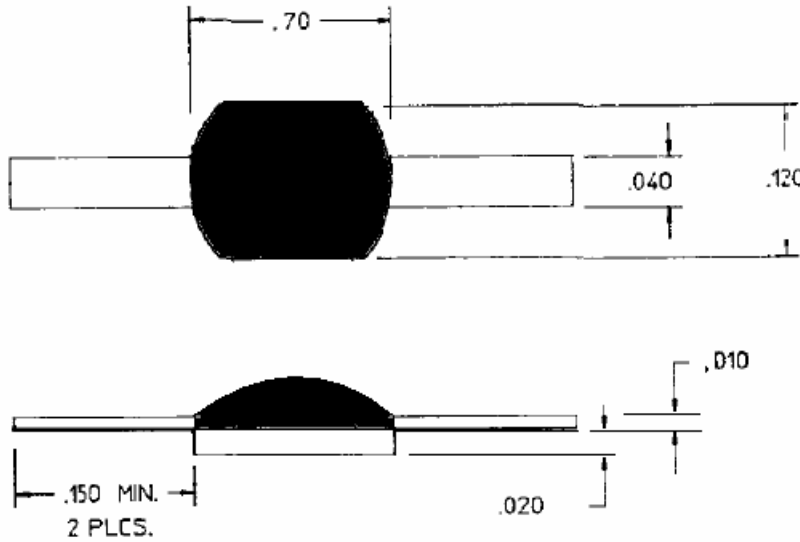
Visit www.macom.com for additional data sheets and product information.

Dual Anti- Parallel Pair PIN Diode

MA44781

V2

Case Style



Units (inches)

ODS-1134