

## 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°C 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

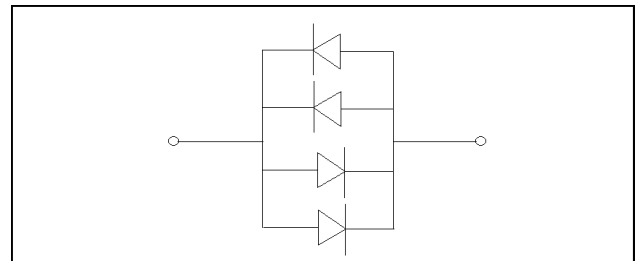
The MA44781 Device is well suited for MRI Passive switching applications. The PIN Diodes become a high Q, R-C network under small signal and behave as an effective passive rectifier or short circuit under high RF Signal to tune and de-tune the resonant MRI tank circuit. The anti-parallel doublet arrangement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

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

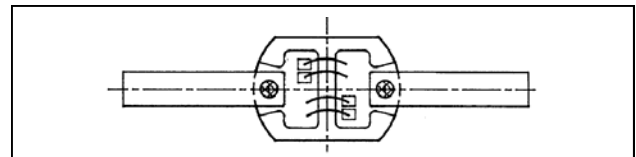
Parameter	Absolute Maximum
Reverse Voltage	60V
Forward Current ( per diode pair ) <sup>3</sup>	2A
Power Dissipation (per diode) <sup>2</sup>	1.7 W
Operating Temperature	-55 °C to +125 °C
Storage Temperature	-55 °C to +125 °C
Junction Temperature	+175 °C

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

#### 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
		$f=1\text{MHz}$ $V_r=-6.0\text{V}$	$I_f = 20\mu\text{A}$	$I_f=20\mu\text{A}$ (between each diodes)
	(pF)	(V)	(mV)	(pF)
<b>MA44781</b>	0.15 - 0.50pF	0.500 - 0.780	+/-30 mV	1.5 - 3.5

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## Case Style 1134

