

MA4E2072 Series



Surface Mount Schottky Crossover Quads

M/A-COM Products
Rev. V2

Features

- Designed for High Volume Applications
- Crossover Quad Configuration
- Lead Free and RoHS* Compliant With 260°C Reflow Capability
- 100 % MATTE Tin Plating
- Available in SOT-143 (ODS –1068)
- Tape and Reel Deliverable

Description and Applications

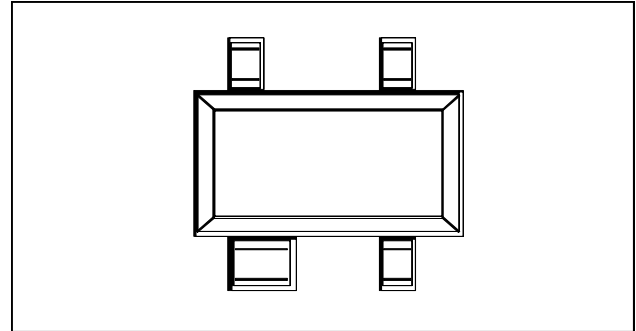
M/A-COM's MA4E2072 is a high performance silicon Schottky cross over quad. These parts are usable for a variety of mixer applications. The closely matched junctions minimize variation in capacitance, forward voltage and dynamic resistance within the four diodes in the quad. They are offered in low, medium and high barrier heights. These diodes are available in a small profile surface mount package SOT-143 (ODS-1068). They are available in tape and reel for automatic pick and place assembly.

Associated Application Note

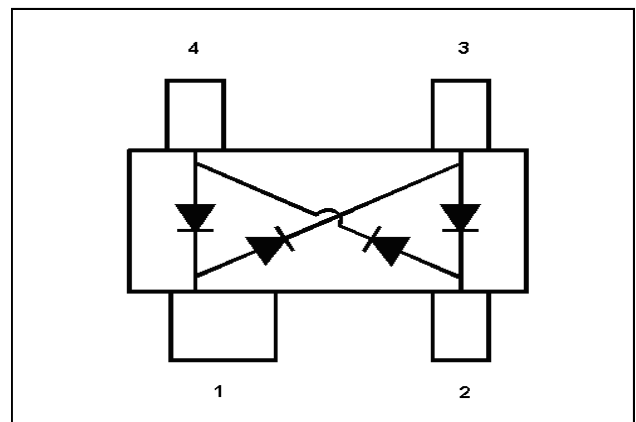
M538 – Surface Mounting Instructions

Package Outline (Topview)

SOT-143 (1068)



Configuration (Topview)



*Restrictions on Hazardous Substances, European Union Directive 2002/95/EC.

1

ADVANCED: Data Sheets contain information regarding a product M/A-COM is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

PRELIMINARY: Data Sheets contain information regarding a product M/A-COM has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

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- **Europe** Tel: 44.1908.574.200 / Fax: 44.1908.574.300
- **Asia/Pacific** Tel: 81.44.844.8296 / Fax: 81.44.844.8298

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Maximum Ratings @ +25 °C ¹

Parameter	Unit	Values
Operating Temperature	°C	-65 to +125
Storage Temperature	°C	-65 to +125
Junction Temperature	°C	+150
RF Incident Power (CW)	mW	75
Soldering Temperature	°C	+260 max

1. Operation of this device above any one of these parameters may cause permanent damage.

Electrical Specifications @ +25 °C

Part Number	Forward Voltage ²			Junction Capacitance ³	Dynamic Resistance
	Vf Typical (mV)	Vf Max. (mV)	Delta Vf Max. (mV)	Cj Typical (pF)	Rd Max. (ohms)
MA4E2072L -1068T	230	240	5	.5	7.0
MA4E2072M -1068T	363	400	5	.5	7.0
MA4E2072H -1068T	540	600	5	.5	7.0

2. Forward voltage is measured at $I_f = 1$ mA

3. Cj is measured at $V_r = 0$ volts and $f = 1$ MHz.

2

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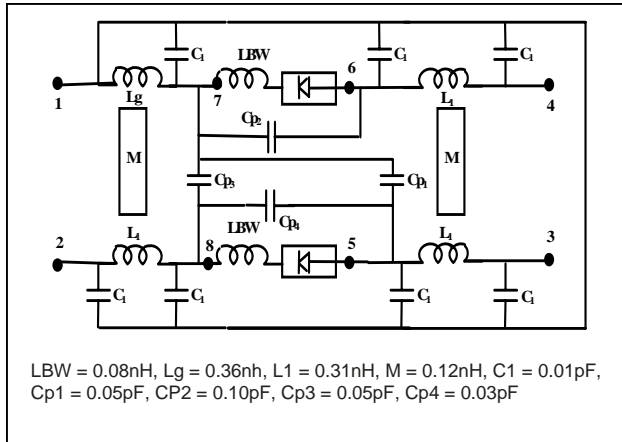
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Equivalent Circuit Parasitics

SOT-143

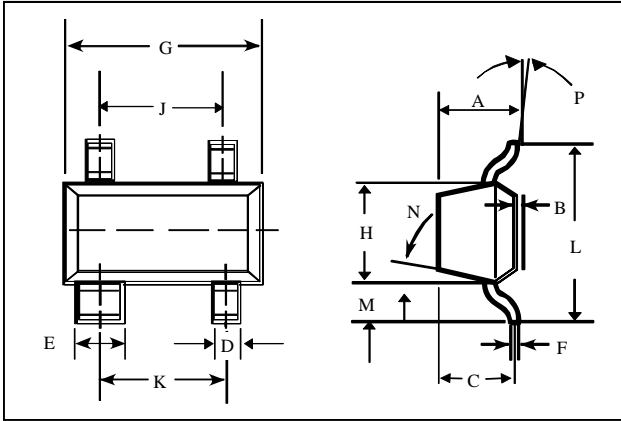


Spice Model Parameters

Parameter	L	M	H
IS	5.66n	3n	2n
IKF	0.02	0.02	0.02
N	1.04	1.05	1.68
RS	1.4	1.7	1.0
CJO	0.32 pF	.35 pF	.40 pF
M	.23	.041	.8
FC	0.1	0.1	.2
VJ	0.16	0.07	0.7
EG	0.7	0.7	0.7
XTI	2	2	2
TT	0	0	0

Case Style

SOT-143



SOT-143 (Case Style 1068)

DIM.	INCHES		MILLIMETERS	
	MIN.	MAX.	MIN.	MAX.
A	-	0.044	-	1.10
B	-	0.044	-	1.10
C	-	0.040	-	1.00
D	0.030	0.035	0.75	0.90
E	0.013	0.020	0.35	0.50
F	0.003	0.006	0.08	0.15
G	0.110	0.119	2.80	3.00
H	0.047	0.056	1.20	1.40
J	0.075 typical		1.90 typical	
K	0.075 typical		1.90 typical	
L	-	0.103	-	2.6
M	-	0.024	-	0.6
DIM.	GRADIENT			
N	10° max. ⁴			
P	2° ... 30°			

4. Applicable on all sides