

**Surface Mount Schottky  
Crossover Quads**

MA4E2072 Series  
V1

**Features**

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

**Description and Applications**

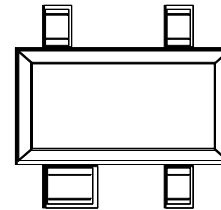
M/A-COM's MA4E2072 is a high performance silicon Schottky cross over quad. These parts are usable for a variety of mixer applications. The closely matched junctions minimize variation in capacitance, forward voltage and dynamic resistance within the four diodes in the quad. They are offered in low, medium 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**

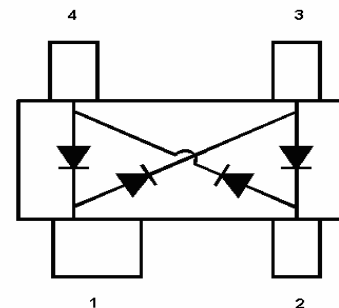
M538 – Surface Mounting Instructions

**Package Outline (Topview)**

**SOT-143 (1068)**



**Configuration (Topview)**



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**Maximum Ratings @ +25 °C<sup>1</sup>**

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.

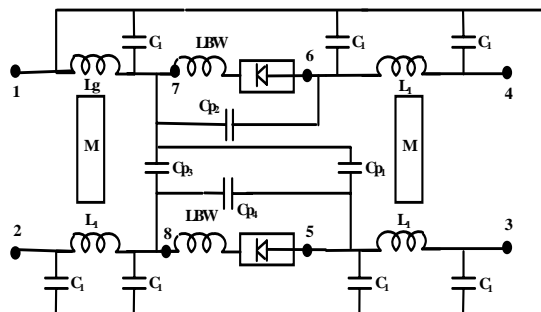
**Electrical Specifications @ +25 °C**

Part Number	Forward Voltage <sup>1</sup>			Junction Capacitance <sup>2</sup>	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

1. Forward voltage is measured at If = 1 mA
2. Cj is measured at Vr = 0 volts and f=1MHz.

**Equivalent Circuit Parasitics**

**SOT-143**



LBW =  
0.08nH,  $L_g = 0.36nH$ ,  $L_1 = 0.31nH$ ,  $M = 0.12nH$ ,  $C_1 = 0.01pF$ ,

**Spice Model Parameters**

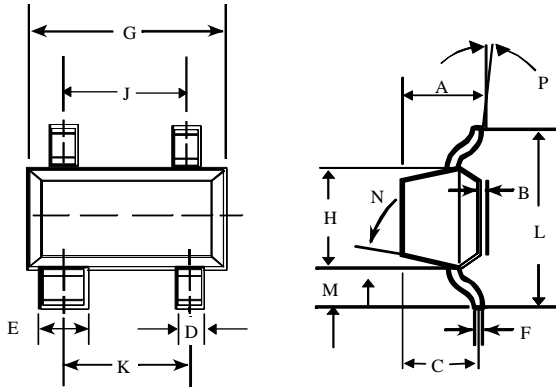
Parameter	L	M	H
IS	5.66n	3n	2n
IKF	0.02	0.02	0.02
N	1.04	1.05	1.68
RS	1.4	1.7	1.0
CJO	0.32 pF	.35 pF	.40 pF
M	.23	.041	.8
FC	0.1	0.1	.2
VJ	0.16	0.07	0.7
EG	0.7	0.7	0.7
XTI	2	2	2
TT	0	0	0

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**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
<b>DIM.</b>	<b>GRADIENT</b>			
N	10° max. <sup>1</sup>			
P	2° . . . 30°			

Note: 1. Applicable on all sides