

# Surface Mount PIN Diode

## MA4CP101A High Sigma™

V4.00

### Features

- High Performance PIN Diode
- Designed for High Volume Pick and Place Assembly
- Low Profile Surface Mount Package
- High Quality Products (Defect Rate Less than 50 PPM)
- Aggressively Priced for High Volume, Commercial Applications

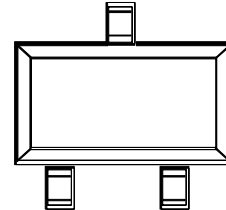
### Description

The MA4CP101A is a PIN diode in the low profile, surface mount SOT-23 package. It is suitable for use with pick and place assembly for high volume, low cost RF switch applications.

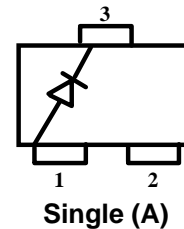
The manufacture of this diode is monitored using Statistical Process Control (SPC) to ensure excellent quality and performance repeatability. The demonstrated defect rate is less than 50 ppm.

The MA4CP101A is delivered in industry-standard 8 mm tape and reel. The standard reel contains 3,000 diodes.

### SOT-23



### Configuration (Top View)



### Electrical Specifications @ 25°C

#### PIN Switching Diode

Model Number	Configuration	Marking	Minimum Reverse Voltage, $V_R$	Maximum Capacitance, $C_T$	Maximum Resistance, $R_s$	Typical Carrier Lifetime, TL
			$I_R = 10 \mu A$	$V_R = 20V, f = 1 \text{ MHz}$	$I_F = 10 \text{ mA}, f = 100 \text{ MHz}$	$I_F = 10 \text{ mA}$
MA4CP101A	Single	A2	35 V	1 pF	0.6 ohms	100 ns

HIGH SIGMA is a trademark of M/A-COM, Inc.

Specification Subject to Change Without Notice

#### M/A-COM, Inc.

North America: Tel. (800) 366-2266  
Fax (800) 618-8883

■ Asia/Pacific: Tel. +85 2 2111 8088  
Fax +85 2 2111 8087

■ Europe: Tel. +44 (1344) 869 595  
Fax +44 (1344) 300 020

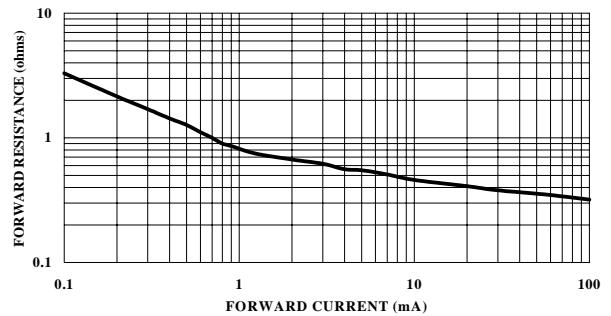
**Absolute Maximum Ratings @ 25°C**

Parameter	Absolute Maximum
Reverse Voltage	Voltage Rating
Forward Current	100 mA
Total Power Dissipation <sup>1</sup>	250 mW
Operating Temperature	-65°C to +125°C
Storage Temperature	-65°C to +125°C

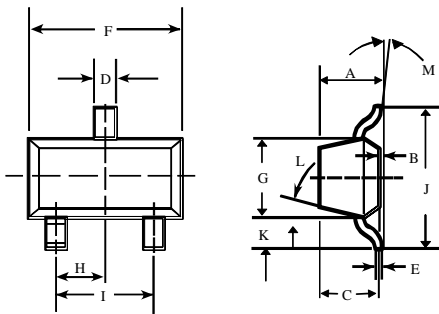
1. At +25°C case temperature. Derate linearly to +125°C.

**Typical Performance Curve**

**FORWARD RESISTANCE vs FORWARD CURRENT (MA4CP101)**



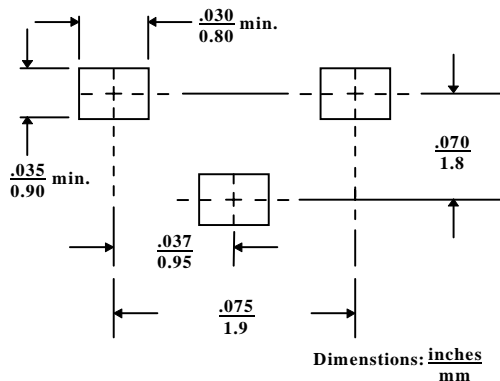
**SOT-23 (Low Profile)**



**SOT-23 (Case 287)**

DIM.	INCHES		MILLIMETERS	
	MIN.	MAX.	MIN.	MAX.
A	—	0.044	—	1.10
B	—	0.004	—	0.10
C	—	0.040	—	1.00
D	0.013	0.020	0.35	0.50
E	0.003	0.006	0.08	0.15
F	0.110	0.119	2.80	3.00
G	0.047	0.056	1.20	1.40
H	0.037 typical		0.95 typical	
I	0.075 typical		1.90 typical	
J	—	0.103	—	2.60
K	—	0.024	—	0.60

**Mounting Pad Diagrams**



DIM.	GRADIENT
L	10° max. <sup>1</sup>
M	2° . . . 30°

**Note:**

1. Applicable on all sides.