

**Comchip**  
SMD Diode Specialist



*Automotive Diode*

**Comchip Technology**

[www.comchiptech.com](http://www.comchiptech.com)

# About Comchip

**Comchip**  
SMD Diode Specialist



Comchip Technology is a discrete semiconductor solution provider specializing in diodes. Our headquarters in Taiwan includes production facilities, warehouse, engineering, and QC department with testing capabilities. Sales offices are located in Taiwan and USA.

# About Automotive Product

**Comchip**  
SMD Diode Specialist



AEC  
Q101



With innovative research and patented manufacturing capabilities, Comchip offers automotive products including Schottky, TVS, Zener, ESD protection, switching diodes, ultra fast recovery rectifiers etc. Comchip products cover a vast array of applications in automotive. To ensure superior quality and reliability, Comchip's in-house labs and production facilities are aligned with current automotive industry requirements in accordance with industry standards including AEC-Q101, TS16949 and ISO14001.

# About Quality

**Comchip**  
SMD Diode Specialist



Quality is a priority in Comchip. Our Quality Management Systems are designed to ensure all final products meet performance requirements and are reliable over their lifetimes. The Comchip Quality Policy is our basis of commitment to provide our customers with world-class products.

# Vast Array of Automotive Applications

**Comchip**  
SMD Diode Specialist

|                                       |              |
|---------------------------------------|--------------|
| <i>Schottky</i>                       | <i>06-07</i> |
| <i>Fast Recovery</i>                  | <i>08</i>    |
| <i>General Purpose</i>                | <i>09</i>    |
| <i>TVS</i>                            | <i>10</i>    |
| <i>Zener</i>                          | <i>11</i>    |
| <i>ESD Protection Diodes</i>          | <i>12</i>    |
| <i>Small Signal Diode – Zener</i>     | <i>13</i>    |
| <i>Small Signal Diode – Schottky</i>  | <i>14</i>    |
| <i>Small Signal Diode – Switching</i> | <i>15</i>    |

# Schottky

Guard ring technology reduces reverse leakage current and increases ESD capability. Gradient epi layer structure reduces forward voltage drop and high forward surge current.

Automotive Application:

Automotive Networking, Body Control Module, Chassis Control Unit, Exterior Light, Infotainment, Interior Light, Seat Control Module



## Schottky Barrier Rectifier

| Part No    | VRRM | VF   | IF | IFSM | IR  | Package |
|------------|------|------|----|------|-----|---------|
|            | V    | V    | A  | A    | mA  |         |
| ACDBM140   | 40   | 0.5  | 1  | 30   | 0.5 | SOD-123 |
| ACDBM1100  | 100  | 0.85 | 1  | 30   | 0.5 | SOD-123 |
| ACDBM1200  | 200  | 0.92 | 1  | 30   | 0.5 | SOD-123 |
| ACDBM240   | 40   | 0.5  | 2  | 50   | 0.5 | SOD-123 |
| ACDBM2100  | 100  | 0.85 | 2  | 50   | 0.5 | SOD-123 |
| ACDBM2200  | 200  | 0.92 | 2  | 50   | 0.5 | SOD-123 |
| ACDBA140   | 40   | 0.5  | 1  | 30   | 0.5 | SMA     |
| ACDBA160   | 60   | 0.7  | 1  | 30   | 0.5 | SMA     |
| ACDBA1100  | 100  | 0.81 | 1  | 30   | 0.5 | SMA     |
| ACDBA240   | 40   | 0.5  | 2  | 50   | 0.5 | SMA     |
| ACDBA260   | 60   | 0.7  | 2  | 50   | 0.5 | SMA     |
| ACDBA2100  | 100  | 0.81 | 2  | 50   | 0.5 | SMA     |
| ACDBA340   | 40   | 0.5  | 3  | 70   | 0.5 | SMA     |
| ACDBA360   | 60   | 0.7  | 3  | 70   | 0.5 | SMA     |
| ACDBA3100  | 100  | 0.81 | 3  | 70   | 0.5 | SMA     |
| ACDBD1040  | 40   | 0.55 | 10 | 150  | 0.5 | D2PAK   |
| ACDBD1060  | 60   | 0.75 | 10 | 150  | 0.5 | D2PAK   |
| ACDBD10100 | 100  | 0.85 | 10 | 150  | 0.5 | D2PAK   |
| ACDBD10150 | 150  | 1    | 10 | 150  | 0.5 | D2PAK   |
| ACDBD10200 | 200  | 1    | 10 | 150  | 0.5 | D2PAK   |

# Schottky

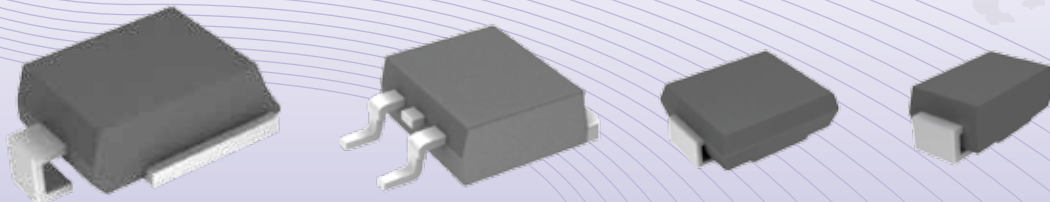
Special metal barrier construction facilitates low forward voltage(VF) and low leakage current(IR)

Automotive Application:

Automotive Networking, Body Control Module, Chassis Control Unit, Exterior Light, Infotainment, Interior Light, Seat Control Module

## Low Vf Schottky Barrier Rectifier

| Part No     | VRRM | VF   | IF | IFSM | IR   | Package        |
|-------------|------|------|----|------|------|----------------|
|             | V    | V    | A  | A    | mA   |                |
| ACDBUC140LC | 40   | 0.6  | 1  | 5    | 0.03 | 0603C/SOD-523F |
| ACDBMT220L  | 20   | 0.38 | 2  | 50   | 1    | SOD-123H       |
| ACDBMT230L  | 30   | 0.4  | 2  | 50   | 1    | SOD-123H       |
| ACDBMT240L  | 40   | 0.4  | 2  | 50   | 1    | SOD-123H       |
| ACDBA140L   | 40   | 0.4  | 1  | 30   | 1    | SMA            |
| ACDBA140LL  | 40   | 0.35 | 1  | 50   | 1    | SMA            |
| ACDBA240L   | 40   | 0.4  | 2  | 50   | 1    | SMA            |
| ACDBA240LL  | 40   | 0.35 | 2  | 70   | 1    | SMA            |
| ACDBB340LR  | 40   | 0.45 | 3  | 125  | 0.5  | SMB            |
| ACDBB3100LR | 100  | 0.75 | 3  | 125  | 0.5  | SMB            |
| ACDBB3200LR | 200  | 0.85 | 3  | 125  | 0.5  | SMB            |



# Fast Recovery

Glass passivation wafer technology provides excellent reverse leakage current. Platinum diffusion technology creates recombination center for soft recovery characteristic.

Automotive Application:

Body Control Module, Exterior Light, Infotainment, Interior Light, Seat Control Module

## Super Fast Recovery Rectifiers

| Part No  | VRRM | VF   | IF | IFSM | IR | Trr | Package            |
|----------|------|------|----|------|----|-----|--------------------|
|          | V    | V    | A  | A    | uA | ns  |                    |
| ACSFM103 | 200  | 0.95 | 1  | 25   | 5  | 35  | Mini SMA / SOD-123 |
| ACSFM104 | 400  | 1.25 | 1  | 25   | 5  | 35  | Mini SMA / SOD-123 |
| ACSFM105 | 600  | 1.7  | 1  | 25   | 5  | 35  | Mini SMA / SOD-123 |
| ACSFA102 | 100  | 0.95 | 1  | 30   | 5  | 35  | SMA                |
| ACSFA103 | 200  | 0.95 | 1  | 30   | 5  | 35  | SMA                |
| ACSFA104 | 400  | 1.25 | 1  | 30   | 5  | 35  | SMA                |
| ACSFA105 | 600  | 1.5  | 1  | 30   | 5  | 50  | SMA                |

## Fast Recovery Rectifiers

| Part No  | VRRM | VF  | IF | IFSM | IR | Trr | Package |
|----------|------|-----|----|------|----|-----|---------|
|          | V    | V   | A  | A    | uA | ns  |         |
| ACURA103 | 200  | 1   | 1  | 30   | 5  | 50  | SMA     |
| ACURA104 | 400  | 1.3 | 1  | 30   | 5  | 50  | SMA     |
| ACURA107 | 1000 | 1.7 | 1  | 30   | 5  | 75  | SMA     |
| ACURB203 | 200  | 1   | 2  | 50   | 5  | 50  | SMB     |
| ACURB204 | 400  | 1.3 | 2  | 50   | 5  | 50  | SMB     |
| ACURB207 | 1000 | 1.7 | 2  | 50   | 5  | 75  | SMB     |

# General Purpose

Glass passivation wafer technology provides excellent reverse leakage current.

Automotive Application:

Automotive Networking, Body Control Module, Chassis Control Unit, Exterior Light, Infotainment, Interior Light, Seat Control Module



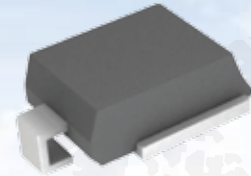
| Part No    | VRRM | VF  | IF | IFSM | IR | Package     |
|------------|------|-----|----|------|----|-------------|
|            | V    | V   | A  | A    | uA |             |
| ACGRKM4003 | 200  | 1.1 | 1  | 30   | 5  | KM/SOD-123F |
| ACGRKM4005 | 600  | 1.1 | 1  | 30   | 5  | KM/SOD-123F |
| ACGRKM4006 | 800  | 1.1 | 1  | 30   | 5  | KM/SOD-123F |
| ACGRKM4007 | 1000 | 1.1 | 1  | 30   | 5  | KM/SOD-123F |
| ACGRA4003  | 200  | 1.1 | 1  | 30   | 5  | SMA         |
| ACGRA4005  | 600  | 1.1 | 1  | 30   | 5  | SMA         |
| ACGRA4006  | 800  | 1.1 | 1  | 30   | 5  | SMA         |
| ACGRA4007  | 1000 | 1.1 | 1  | 30   | 5  | SMA         |
| ACGRB203   | 200  | 1.1 | 2  | 30   | 5  | SMB         |
| ACGRB205   | 600  | 1.1 | 2  | 30   | 5  | SMB         |
| ACGRB206   | 800  | 1.1 | 2  | 30   | 5  | SMB         |
| ACGRB207   | 1000 | 1.1 | 2  | 30   | 5  | SMB         |
| ACGRC303   | 200  | 1.1 | 3  | 100  | 5  | SMC         |
| ACGRC304   | 400  | 1.1 | 3  | 100  | 5  | SMC         |
| ACGRC306   | 800  | 1.1 | 3  | 100  | 5  | SMC         |
| ACGRC307   | 1000 | 1.1 | 3  | 100  | 5  | SMC         |

# TVS *(Transient Voltage Suppressor)*

Excellent clamping capability was created by highly concentrated doping wafer technology. Glass passivation technology ensures high temperature reverse characteristics stability.

Automotive Application:

Automotive Networking, Body Control Module, Chassis Control Unit, Exterior Light, Infotainment



## TVS *(Transient Voltage Suppressor)*

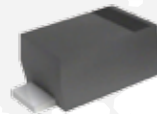
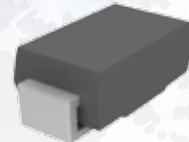
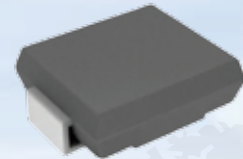
| Part No        | VRRM |     | IFSM | PPP  | Package  |
|----------------|------|-----|------|------|----------|
|                | V    |     | A    | W    |          |
| ATV02W Series  | 5    | 190 | 20   | 200  | SOD-123  |
| ATV04A Series  | 5    | 440 | 40   | 400  | SMA      |
| ATV06B Series  | 5    | 440 | 100  | 600  | SMB      |
| ATV15C Series  | 5    | 440 | 200  | 1500 | SMC      |
| ATV30C Series  | 5    | 440 | 300  | 3000 | SMC      |
| ATV50C Series  | 11   | 440 | 300  | 5000 | SMC      |
| ATV50D2 Series | 14   | 43  | 300  | 5000 | D2PAK    |
| ATV66SM Series | 14   | 43  | 700  | 6600 | DO-218AB |

# Zener

Wide range breakdown voltage from 2.4V to 200V with 5% tolerance. Low zener impedance at low voltage parts. Clip bonding technology with better thermal capability.

Automotive Application:

Body Control Module, Chassis Control Unit, Exterior Light, Interior Light, Seat Control Module



## High Power Zener

| Part No           | VZ  |     | PD   | Package |
|-------------------|-----|-----|------|---------|
|                   | V   |     | mW   |         |
| ACZRM52xxB series | 2.4 | 56  | 500  | SOD-123 |
| ACZRA47xx series  | 3.3 | 100 | 1000 | SMA     |
| ACZRA59xxB series | 6.2 | 200 | 1500 | SMA     |
| ACZRC53xxB series | 6.0 | 200 | 5000 | SMC     |

# ESD Protection Diodes

Innovation of ultra low capacitance and footprint on ESD for high speed data transfer application in handheld devices.



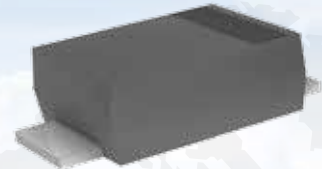
Automotive Application:

Automotive Networking, Body Control Module, Infotainment, Seat Control Module

| Part No       | VR   | IPP | VC   | ESD                  | IR    | CJ    | Package        |
|---------------|------|-----|------|----------------------|-------|-------|----------------|
|               | V    | A   | V    | KV (Air/<br>Contact) | uA    | pF    |                |
| ACPDZ5V0H     | 5.0  | 5.0 | 10   | 25/25                | 0.10  | 10.00 | 0201/DFN0603   |
| ACPDQT5V0SP   | 5.0  | 1.0 | 12.9 | 15/10                | 1.00  | 0.90  | 0402/SOD-882   |
| ACPDQ5V0USP   | 5.0  | 1.0 | 9.8  | 15/10                | 1.00  | 0.90  | 0402/SOD-923F  |
| ACPDQC5V0CSP  | 5.0  | 3.0 | 21   | 15/8                 | 0.10  | 0.60  | 0402C/SOD-923F |
| ACPDQC5V0ESPC | 5.0  | 4.0 | 25   | 25/25                | 0.05  | 0.35  | 0402C/SOD-923F |
| ACPDUC24VE    | 24.0 | 3.0 | 46   | 30/30                | 0.10  | 20.00 | 0603C/SOD-523F |
| ACPDH5V0P     | 5.0  | 3.0 | 13   | 12/12                | 1.00  | 3.00  | SOD-523        |
| ACPDV3V3SP    | 3.3  | 8.0 | 13.9 | 15/8                 | 40.00 | 0.40  | SOD-323        |
| ACPDV5V0SP    | 5.0  | 8.0 | 18.3 | 15/8                 | 5.00  | 0.40  | SOD-323        |
| ACPDV8V0SP    | 8.0  | 8.0 | 18.5 | 15/8                 | 2.00  | 0.40  | SOD-323        |
| ACPDV12V0SP   | 12.0 | 6.0 | 28.6 | 15/8                 | 1.00  | 0.40  | SOD-323        |
| ACPDV15V0SP   | 15.0 | 5.0 | 31.8 | 15/8                 | 1.00  | 0.40  | SOD-323        |
| ACPDV24V0SP   | 24.0 | 3.0 | 56   | 15/8                 | 1.00  | 0.40  | SOD-323        |
| ACPDT-12VEU   | 12.0 | 5.0 | 22   | 30/30                | 0.10  | 60.00 | SOT-23         |
| ACPDT-5V0     | 5.0  | 5.0 | 15   | 16/8                 | 2.00  | 20.00 | SOT-23         |
| ACPDT-12V     | 12.0 | 1.0 | 25   | 16/8                 | 2.00  | 12.00 | SOT-23         |
| ACPDT-24V     | 24.0 | 1.0 | 47   | 16/8                 | 2.00  | 10.00 | SOT-23         |

# Small Signal Diodes

Fully automated production line to ensure best quality and low manufacturing cost. Small foot print and low profile parts manufactured with DFN technology.



Automotive Application:

Automotive Networking, Body Control Module, Chassis Control Unit, Exterior Light, Infotainment, Interior Light, Seat Control Module

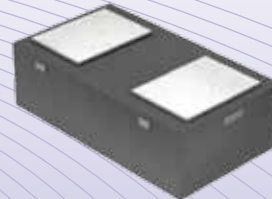
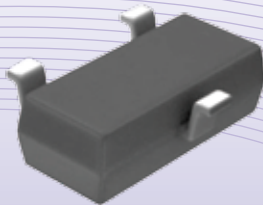
## *Small Signal Zener*

| Part No       | VZ  |    | PD  | Package |
|---------------|-----|----|-----|---------|
|               | V   |    | mW  |         |
| ACZRV5246B-G  | 2.4 | 51 | 200 | SOD-323 |
| ACZRT55C18-G  | 2.4 | 39 | 350 | SOT-23  |
| ACZRT55C33-G  | 2.4 | 39 | 350 | SOT-23  |
| ACZRW5239B-HF | 2.7 | 30 | 350 | SOD-123 |

# Small Signal Diodes

## *Small Signal Schottky Barrier Diode*

| Part No          | VRRM | VF    | IF  | IFSM | IR  | Package        |
|------------------|------|-------|-----|------|-----|----------------|
|                  | V    | V     | mA  | A    | uA  |                |
| ACDBQC0240LR     | 40   | 0.58  | 200 | 3.0  | 5   | 0402C/SOD-923F |
| ACDBQC0530L      | 30   | 0.45  | 500 | 3.0  | 2   | 0402C/SOD-923F |
| ACDBUC0230       | 35   | 0.50  | 200 | 3.0  | 30  | 0603C/SOD-523F |
| ARB521S-30       | 30   | 0.50  | 200 | 1.0  | 30  | SOD-523        |
| ARB751V-40       | 40   | 0.37  | 30  | 0.2  | 0.5 | SOD-323        |
| ACDBV3-54(S/C/A) | 30   | 1.00  | 200 | 0.6  | 2   | SOT-323        |
| ACDBT-70(S/C/A)  | 70   | 1.00  | 70  | 0.1  | 0.1 | SOT-23         |
| ACDBT-54(S/C/A)  | 30   | 1.00  | 200 | 0.6  | 2   | SOT-23         |
| ACDBW01540RF     | 40   | 0.90  | 15  | 2.0  | 0.2 | SOD-123        |
| ACDBW01560RF     | 60   | 1.00  | 15  | 2.0  | 0.2 | SOD-123        |
| ACDBW0520L       | 20   | 0.385 | 500 | 5.5  | 250 | SOD-123        |
| ACDBW0530L       | 30   | 0.43  | 500 | 5.5  | 130 | SOD-123        |
| ACDBW0540L       | 40   | 0.62  | 500 | 5.5  | 20  | SOD-123        |



# Small Signal Diodes



## Switching Diodes

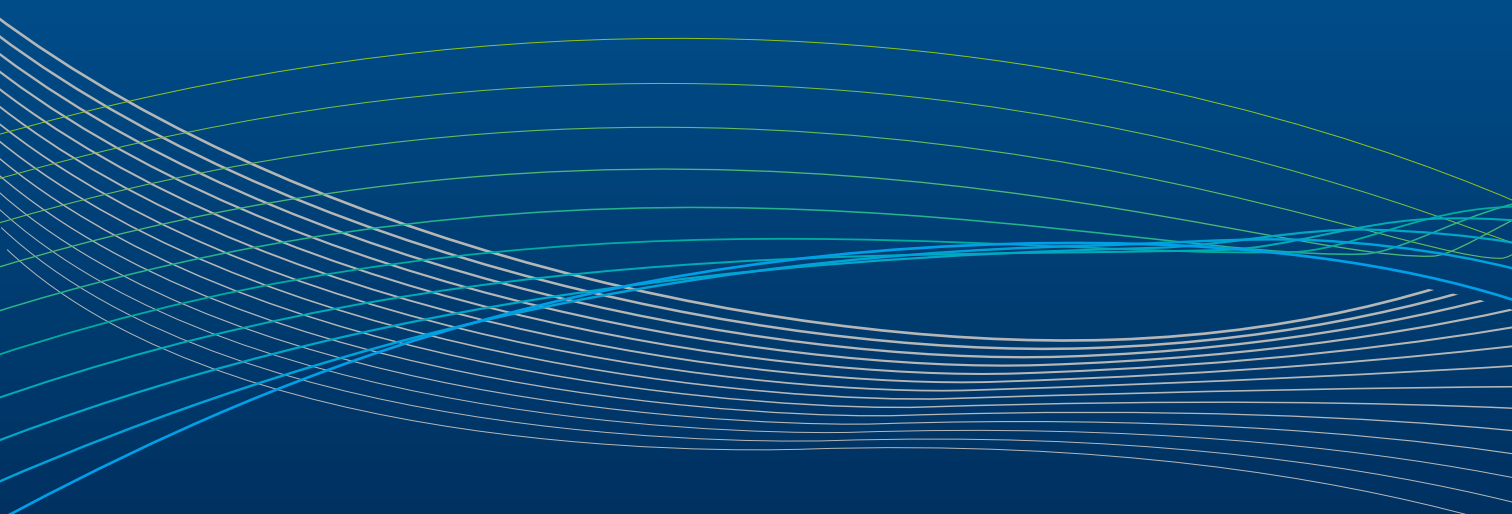
| Part No     | VRRM | VF   | IF   | IFSM | IR   | Trr | Package        |
|-------------|------|------|------|------|------|-----|----------------|
|             | V    | V    | A    | A    | mA   | ns  |                |
| ACDSUC101A  | 90   | 1    | 0.1  | 1    | 0.05 |     | 0603C/SOD-523F |
| ACDSV3-99   | 75   | 1.25 | 0.3  | 2    | 2.5  | 4   | SOT-323        |
| ACDSV6-16   | 75   | 1.25 | 0.15 | 2    | 1    | 4   | SOT-363        |
| ACDSV6-4148 | 75   | 1.25 | 0.15 | 2    | 1    | 4   | SOT-363        |
| ACDSV-19    | 100  | 1.25 | 0.2  | 2.5  | 0.1  | 50  | SOD-323        |
| ACDSV-20    | 150  | 1.25 | 0.2  | 2.5  | 0.1  | 50  | SOD-323        |
| ACDSV-21    | 200  | 1.25 | 0.2  | 2.5  | 0.1  | 50  | SOD-323        |
| ACDSV3-16   | 75   | 1.25 | 0.3  | 2    | 2.5  | 4   | SOT-323        |
| ACDSV3-56   | 75   | 1.25 | 0.3  | 2    | 2.5  | 4   | SOT-323        |
| ACDSV3-70   | 75   | 1.25 | 0.3  | 2    | 2.5  | 4   | SOT-323        |
| ACDST-19    | 100  | 1.25 | 0.2  |      | 0.1  | 50  | SOT-23         |
| ACDST-20    | 150  | 1.25 | 0.2  |      | 0.1  | 50  | SOT-23         |
| ACDSW19     | 100  | 1.25 | 0.2  | 2.5  | 0.1  | 50  | SOD-123        |
| ACDSW20     | 150  | 1.25 | 0.2  | 2.5  | 0.1  | 50  | SOD-123        |
| ACDSW21     | 200  | 1.25 | 0.2  | 2.5  | 0.1  | 50  | SOD-123        |
| ACDSW4148   | 100  | 1.25 | 0.15 | 2    | 1    | 4   | SOD-123        |

## **Taiwan Sales Office & Factory**

No. 586, Jianguo Rd., Yingge Dist  
New Taipei City 23943, Taiwan  
Tel : 886-2-86776675  
Fax : 886-2-86776672

## **USA Sales Office**

4115 Clipper Court, Fremont,  
CA 94538, USA  
Tel : 510-6578671  
Fax : 510-6578921



**Comchip**  
SMD Diode Specialist