

COMPUTER DIODE

Switching

1N643; JAN 1N643
 1N662; JAN 1N662
 1N663; JAN 1N663

FEATURES

- Metallurgical Bond
- Qualified to MIL-S-19500/256
- Planar Passivated Chip
- DO-7 Package

DESCRIPTION

This device is particularly suited to applications where medium speed switching is required. Moisture free stability is ensured through hermetic sealing.

ABSOLUTE MAXIMUM RATINGS, AT 25°C

| | 1N643 JAN 1N643 | 1N662 JAN 1N662 | 1N663 | JAN 1N663 |
|-----------------------------------|--------------------|--------------------|--------|-----------|
| Peak Reverse Voltage | 200V | 100V | 100V | 100V |
| Reverse Working Voltage | 175V | 80V | 80V | 80V |
| Average Rectified Current | 40mAdc | 40mAdc | 60mAdc | 100mA |
| Surge Current, 8.3ms | | 500mA | | |
| Operating Temperature Range | | -65°C to +150°C | | |
| Storage Temperature Range | | -65°C to +175°C | | |

MECHANICAL SPECIFICATIONS

J 1N643, 1N662, 1N663

| | INCHES | MILLIMETERS |
|---|-------------|-------------|
| A | .077 - .130 | 1.96 - 3.30 |
| B | .195 - .300 | 4.95 - 7.62 |
| C | 1.0 - 1.5 | 25.4 - 38.1 |
| D | .019 - .021 | .48 - .53 |

**DO-7
 1N643
 1N662
 1N663**

Microsemi Corp.
Watertown
 The diode experts

UNIBOND SWITCHING DIODES

| Type | Reverse Breakdown Voltage | Average Forward Current (mA) | Forward Voltage | Reverse Recovery Time (ns) | Junction Capacitance (@ 0V) |
|-----------|---------------------------|------------------------------|-----------------|----------------------------|-----------------------------|
| 1N6638†† | 150V | 300 | 1.1V @ 200 mA | 4.5 | 2.0pf |
| 1N6642†† | 100V | 300 | 1.2V @ 100mA | 5.0 | 5.0pf |
| 1N6643†† | 75V | 300 | 1.2V @ 100mA | 6.0 | 5.0pf |
| 1N4148-1† | 100V | 200 | 1.2V @ 100mA | 5.0 | 4.0pf |
| 1N4150-1† | 75V | 200 | 1.0V @ 200mA | 4.0 | 2.5pf |

† Available as JANTX, JANTXV. †† Available as JANTX, JANTXV, UJANTX, UJANTXV.

SWITCHING

| Type | Reverse Breakdown Voltage (V) | Average Forward Current (mA) | Forward Voltage (V) | Reverse Recovery Time (ns) | Junction Capacitance (pF) |
|-----------|-------------------------------|------------------------------|---------------------|----------------------------|---------------------------|
| 1N4154 | 35 | 150 | 1.0 @ 30mA | 2 | 4 |
| 1N4152 | 40 | 150 | .49-.52 @ 0.1mA | 2 | 2 |
| 1N4444 | 70 | 200 | .44-.55 @ 0.1mA | 7 | 2 |
| 1N3064*** | 75 | 75 | 1.0 @ 10mA | 4 | 2 |
| 1N4532*** | 75 | 125 | 1.0 @ 10mA | 4 | 2 |
| 1N4534*** | 75 | 150 | .74-.88 @ 20mA | 4 | 2 |
| 1N4151 | 75 | 150 | 1.0 @ 50mA | 2 | 2 |
| 1N4153*** | 75 | 150 | .49-.55 @ 0.1mA | 2 | 2 |
| 1N4305 | 75 | 150 | 5-.575 @ .25mA | 2 | 2 |
| 1N4446 | 75 | 150 | 1.0 @ 20mA | 4 | 4 |
| 1N4447 | 75 | 150 | 1.0 @ 20mA | 4 | 2 |
| 1N4448 | 75 | 150 | 1.0 @ 100mA | 4 | 4 |
| 1N4449 | 75 | 150 | 1.0 @ 30mA | 4 | 2 |
| 1N3600*** | 75 | 200 | .54-.62 @ 1mA | 4 | 2.5 |
| 1N4149 | 75 | 200 | 1.0 @ 10mA | 4 | 2 |
| 1N4454*** | 75 | 200 | 1.0 @ 10mA | 2 | 2 |
| 1N514** | 100 | 75 | 1.0 @ 10mA | 5 | 4 |
| 1N4531*** | 100 | 125 | 1.0 @ 10mA | 5 | 4 |

ELECTRICAL SPECIFICATIONS (at 25°C unless noted)

| Type | Maximum Reverse Current @ 25°C | Maximum Reverse Current @ 25°C | Maximum Peak Reverse Current @ 25°C | Maximum Reverse Current @ 100°C |
|-------|------------------------------------|------------------------------------|--|-------------------------------------|
| 1N643 | 25nAdc @ V _R = 10Vdc | 1μAdc @ V _R = 100Vdc | 100μA _{PK} @ V _R = 200V _{PK} | 15μAdc @ V _R = 100Vdc |
| 1N662 | 25nAdc @ V _R = 10Vdc | 5μAdc @ V _R = 50Vdc | 100μA _{PK} @ V _R = 100V _{PK} | 100μAdc @ V _R = 50Vdc |
| 1N663 | 25nAdc @ V _R = 10Vdc | 5μAdc @ V _R = 75Vdc | 100μA _{PK} @ V _R = 100V _{PK} | 50μAdc @ V _R = 75Vdc |

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ELECTRICAL SPECIFICATIONS (at 25°C unless noted)

| Type | Maximum Forward Voltage @ 25°C | Capacitance | Maximum Reverse Recovery Time |
|-------|--------------------------------------|--------------------------------|---|
| 1N643 | 1.0Vdc @ I _F = 10mAdc | 3pF @ V _R = 175V | 300ns @ I _F = 5mA I _R = 17.5mA I _{REC} = 0.2nA |
| 1N662 | 1.0Vdc @ I _F = 10mAdc | 3pF @ V _R = 80V | 500 ns @ I _F = 5mA I _R = 17.5mA I _{REC} = 0.4nA |
| 1N662 | 1.0Vdc @ I _F = 100mAdc | 3pF @ V _R = 80V | 500ns @ I _F = 5mA I _R = 17.5mA I _{REC} = 0.4nA |

