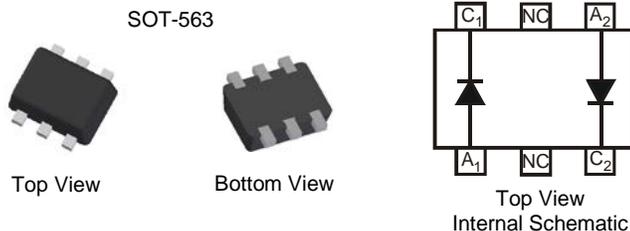


## Features

- Ultra-Small Surface Mount Package
- Fast Switching Speed
- For General Purpose Switching Applications
- Dual Isolated Device with Opposing Polarity
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen- and Antimony-Free. "Green" Device (Note 3)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](mailto:contact@diodes.com) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**

## Mechanical Data

- Case: SOT-563
- Case Material: Molded Plastic; UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish Annealed over Copper Lead-Frame; Solderable per MIL-STD-202, Method 208
- Weight: 0.003 grams (Approximate)

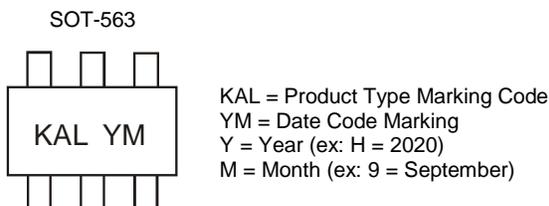


## Ordering Information (Note 4)

Part Number	Compliance	Case	Packaging
MMBD4448V-7	Standard	SOT-563	3,000/Tape & Reel

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
  2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
  4. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

## Marking Information (Note 5)



### Date Code Key

Year	2004	.....	2020	2021	2022	2023	2024	2025	2026
Code	R	.....	H	I	J	K	L	M	N

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

- Notes: 5. Package is non-polarized. Parts may be on reel in orientation illustrated, 180° rotated, or mixed.

**Maximum Ratings** (@  $T_A = +25^\circ\text{C}$  unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	$V_{RM}$	100	V
Peak Repetitive Reverse Voltage	$V_{RRM}$	80	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_R$		
RMS Reverse Voltage	$V_{R(RMS)}$	57	V
Forward Continuous Current (Note 6)	$I_{FM}$	500	mA
Average Rectified Output Current (Note 6)	$I_O$	250	mA
Non-Repetitive Peak Forward Surge Current	$I_{FSM}$	@ $t = 1.0\mu\text{s}$	4.0
		@ $t = 1.0\text{s}$	1.0

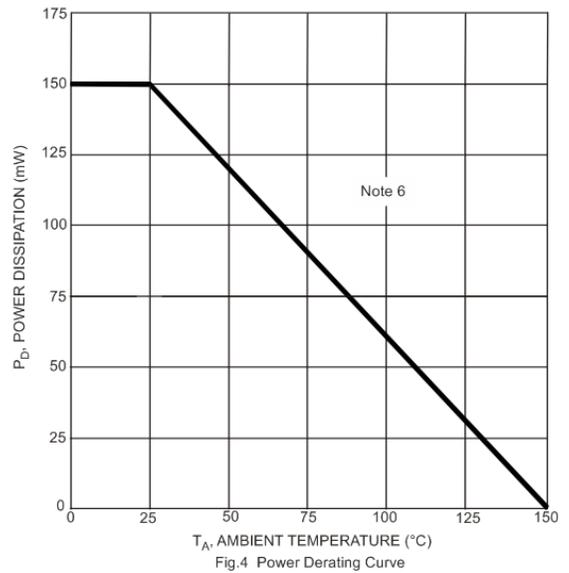
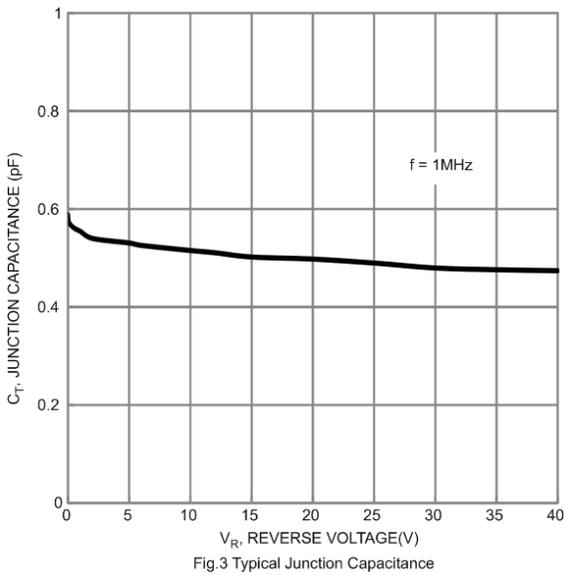
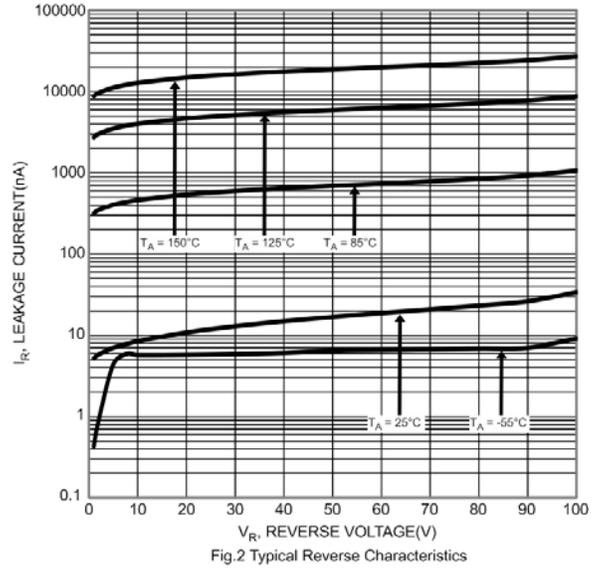
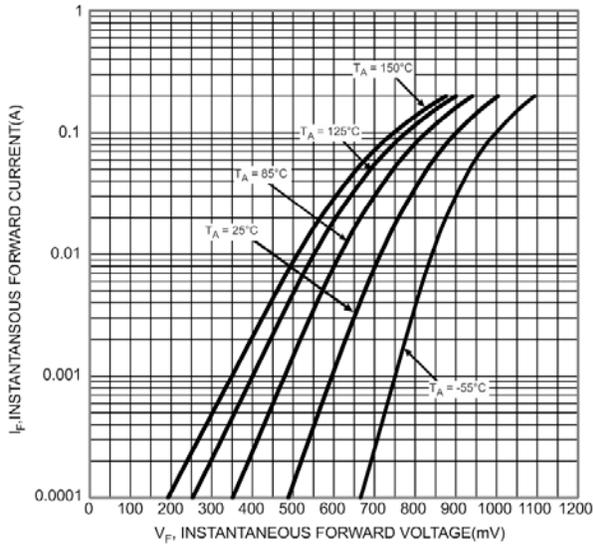
**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 6)	$P_D$	150	mW
Thermal Resistance Junction to Ambient (Note 6)	$R_{\theta JA}$	833	$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

**Electrical Characteristics** (@  $T_A = +25^\circ\text{C}$  unless otherwise specified.)

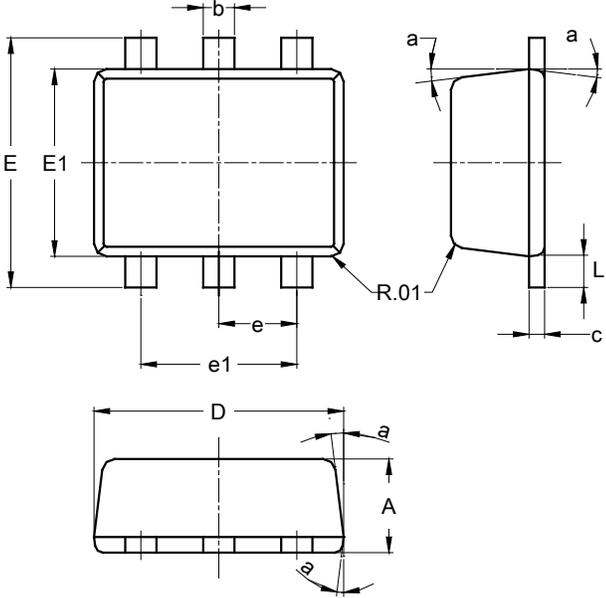
Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 7)	$V_{(BR)R}$	80	—	V	$I_R = 2.5\mu\text{A}$
Forward Voltage	$V_F$	0.62	0.72	V	$I_F = 5.0\text{mA}$
		—	0.855		$I_F = 10\text{mA}$
		—	1.0		$I_F = 100\text{mA}$
		—	1.25		$I_F = 150\text{mA}$
Leakage Current (Note 7)	$I_R$	—	100	nA	$V_R = 70\text{V}$
		—	50	$\mu\text{A}$	$V_R = 75\text{V}, T_J = +150^\circ\text{C}$
		—	30	$\mu\text{A}$	$V_R = 25\text{V}, T_J = +150^\circ\text{C}$
		—	25	nA	$V_R = 20\text{V}$
Total Capacitance	$C_T$	—	3.5	pF	$V_R = 6\text{V}, f = 1.0\text{MHz}$
Reverse Recovery Time	$t_{rr}$	—	4.0	ns	$I_F = I_R = 10\text{mA},$ $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$

Notes: 6. Device mounted on FR-4 PCB, 1-inch x 0.85 inch x 0.062 inch pad layout.  
7. Short duration pulse test used to minimize self-heating effect.



**Package Outline Dimensions**

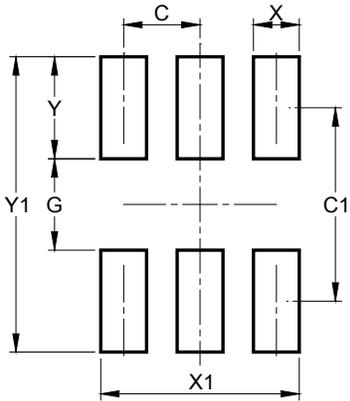
Please see <http://www.diodes.com/package-outlines.html> for the latest version.



SOT563			
Dim	Min	Max	Typ
A	0.55	0.60	0.60
b	0.15	0.30	0.20
c	0.10	0.18	0.11
D	1.50	1.70	1.60
E	1.55	1.70	1.60
E1	1.10	1.25	1.20
e	--	--	0.50
e1	0.90	1.10	1.00
L	0.10	0.30	0.20
a	8°	9°	7°
All Dimensions in mm			

**Suggested Pad Layout**

Please see <http://www.diodes.com/package-outlines.html> for the latest version.



Dimensions	Value (in mm)
C	0.500
C1	1.270
G	0.600
X	0.300
X1	1.300
Y	0.670
Y1	1.940

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