





SURFACE MOUNT FAST SWITCHING DIODE

Features

- Ultra-Small Surface Mount Package
- Fast Switching Speed
- For General Purpose Switching Applications
- High Conductance
- Lead Free By Design/RoHS Compliant (Note 4)
- "Green" Device (Note 5 and 6)

Mechanical Data

- Case: SOT-563
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Finish Matte Tin annealed over Alloy 42 leadframe. Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.003 grams (approximate)





TOP VIEW Internal Schematic





BOTTOM VIEW

Maximum Ratings @T_A = 25°C unless otherwise specified

TOP VIEW

Characteristic		Symbol	Value	Unit	
Non-Repetitive Peak Reverse Voltage		V_{RM}	100	V	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage		V _{RRM} V _{RWM} V _R	80	٧	
RMS Reverse Voltage		V _{R(RMS)}	57	V	
Forward Continuous Current (Note 2)		I _{FM}	500	mA	
Average Rectified Output Current (Note 2)		lo	250	mA	
Non-Repetitive Peak Forward Surge Current	@ t = 1.0μs @ t = 1.0s	I _{FSM}	4.0 2.0	А	

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 2)	P _D	150	mW
Thermal Resistance Junction to Ambient (Note 2)	$R_{ hetaJA}$	833	°C/W
Operating and Storage Temperature Range	T_J , T_{STG}	-65 to +150	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 3)	$V_{(BR)R}$	80	_	V	$I_R = 2.5 \mu A$
		0.62	0.72		$I_F = 5.0 \text{mA}$
Forward Voltage	VF	_	0.855	V	$I_F = 10mA$
Tolward Voltage		_	1.0		I _F = 100mA
			1.25		I _F = 150mA
			100	nA	$V_R = 70V$
Leakage Current (Note 3)	I _R	I _R —	50	μΑ	$V_R = 75V, T_J = 150^{\circ}C$
Leakage Current (Note 3)			30	μΑ	$V_R = 25V, T_J = 150^{\circ}C$
			25	nA	$V_R = 20V$
Total Capacitance	Ст		3.5	pF	V _R = 6V, f = 1.0MHz
Reverse Recovery Time	t _{rr}	_	4.0	ns	$V_R = 6V, I_F = 5mA$

Notes:

- 1. Package is non-polarized. Parts may be on reel in orientation illustrated, 180° rotated, or mixed (both ways).
- Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch; pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
- 3. Short duration pulse test used to minimize self-heating effect.
- 4. No purposefully added lead.
- 5. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
- Product manufactured with Date Code UO (week 40, 2007) and newer are built with Green Molding Compound. Product manufactured prior to Date Code UO are built with Non-Green Molding Compound and may contain Halogens or Sb₂O₃ Fire Retardants.

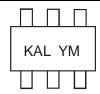


Ordering Information (Notes 6 & 7)

Part Number	Case	Packaging
MMBD4448V-7	SOT-563	3000/Tape & Reel

Notes: 7. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information

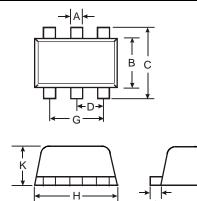


KAL = Product Type Marking Code YM = Date Code Marking Y = Year (ex: T = 2006) M = Month (ex: 9 = September)

Date Code Key

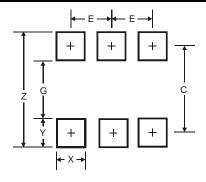
Year	2004	20	05	2006	2007	20	80	2009	2010	20	11	2012
Code	R	5	3	Т	U	\	V	W	X	`	1	Z
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	0	N	D

Package Outline Dimensions



SOT-563					
Dim	Min	Max	Тур		
Α	0.15	0.30	0.20		
В	1.10	1.25	1.20		
С	1.55	1.70	1.60		
D	0.50				
G	0.90	1.10	1.00		
Н	1.50	1.70	1.60		
K	0.55	0.60	0.60		
L	0.10	0.30	0.20		
M	0.10	0.18	0.11		
All Dimensions in mm					

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.2
G	1.2
X	0.375
Υ	0.5
С	1.7
E	0.5

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