

2A, 50V - 1000V Surface Mount Fast Recovery Rectifiers

FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- Glass passivated junction chip
- Fast switching for high efficiency
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

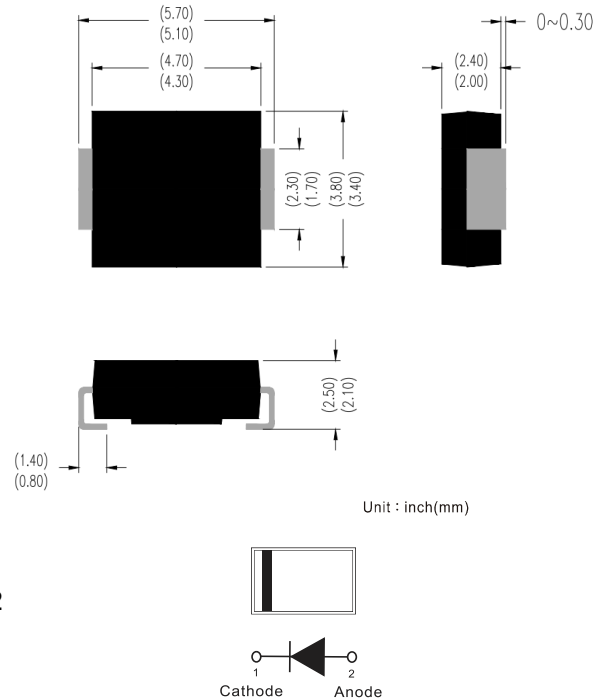
APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Lighting application
- Converter

MECHANICAL DATA

- Case: DO-214AA (SMB)
- Molding compound meets UL 94V-0 flammability rating
- Moisture sensitivity level: level 1, per J-STD-020
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: As marked
- Weight: 0.09 g (approximately)

DO-214AA (SMB)



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

PARAMETER	SYMBOL	RS2A	RS2B	RS2D	RS2G	RS2J	RS2K	RS2M	UNIT
Repetitive peak reverse voltage	V _{RRM}	50	100	200	400	600	800	1000	V
Reverse voltage, total rms value	V _{R(RMS)}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V _{DC}	50	100	200	400	600	800	1000	V
Forward current	I _{F(AV)}	2							A
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load per diode	I _{FSM}	50							A
Junction temperature	T _J	- 55 to +150							°C
Storage temperature	T _{STG}	- 55 to +150							°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	LIMIT	UNIT
Junction-to-Ambient Thermal Resistance	$R_{\theta JA}$	55	$^{\circ}\text{C/W}$
Junction-to-lead thermal resistance	$R_{\theta JL}$	18	$^{\circ}\text{C/W}$

ELECTRICAL SPECIFICATIONS ($T_A = 25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode ⁽¹⁾	$I_F = 2\text{A}, T_J = 25^{\circ}\text{C}$	V_F	-	1.3	V
Reverse current @ rated V_R per diode ⁽²⁾	$T_J = 25^{\circ}\text{C}$	I_R	-	5	μA
	$T_J = 125^{\circ}\text{C}$		-	50	μA
Junction capacitance	1 MHz, $V_R = 4.0\text{V}$	C_J	50	-	pF
Reverse recovery time	$I_F = 0.5\text{A}, I_R = 1.0\text{A}$ $I_{RR} = 0.25\text{A}$	t_{rr}	-	150	ns
					ns
					ns
			-	250	ns
			-	500	ns
			-	500	ns
			-	500	ns

Notes:

1. Pulse test with $PW = 0.3\text{ ms}$
2. Pulse test with $PW = 30\text{ ms}$

CHARACTERISTICS CURVES

($T_A = 25^{\circ}\text{C}$ unless otherwise noted)

Fig1. Forward Current Derating Curve

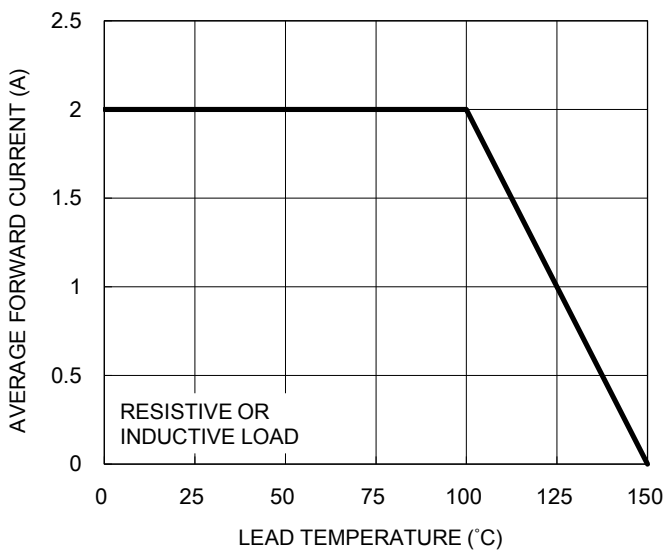
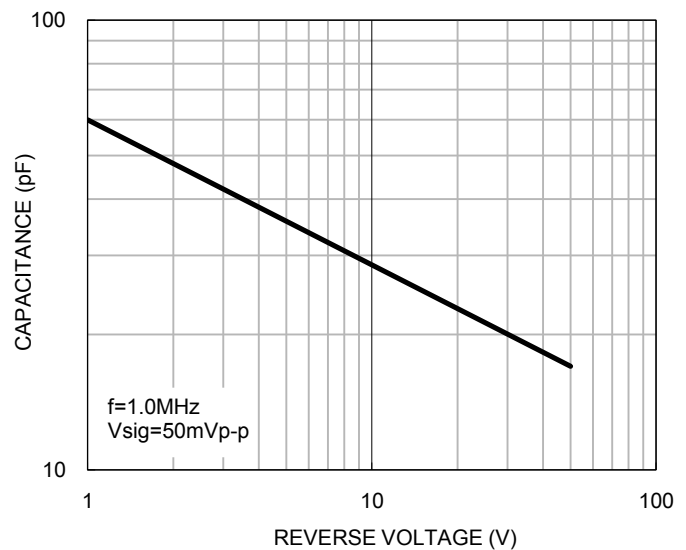


Fig2. Typical Junction Capacitance



CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig3. Typical Reverse Characteristics

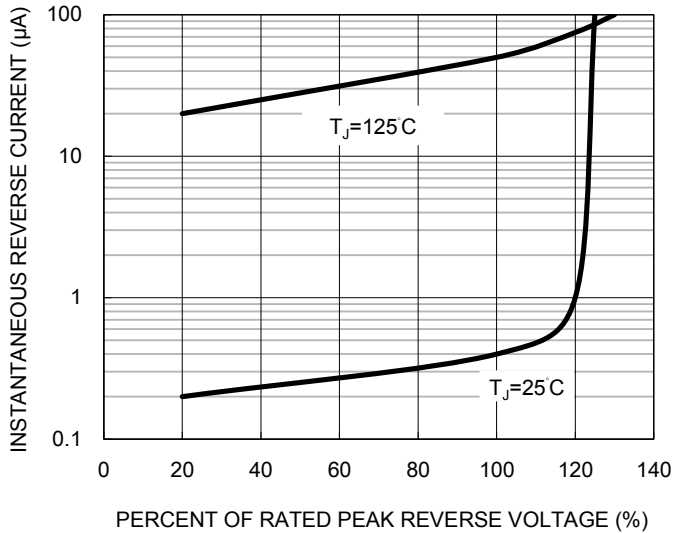


Fig4. Typical Forward Characteristics

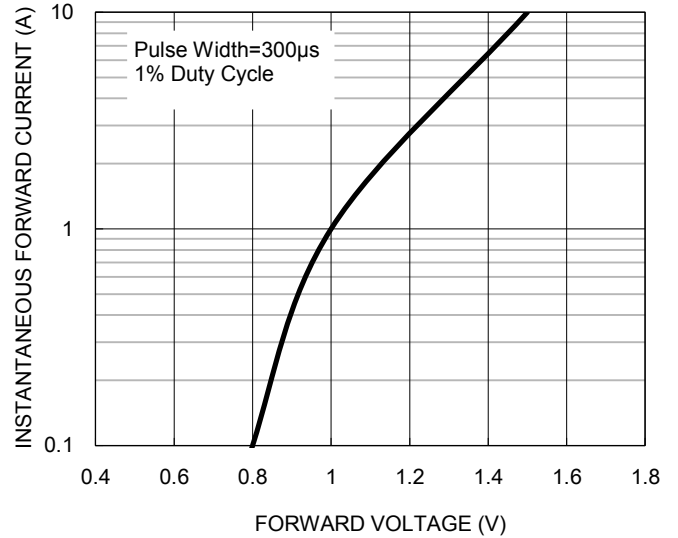


Fig5. Maximum Non-repetitive Forward Surge Current

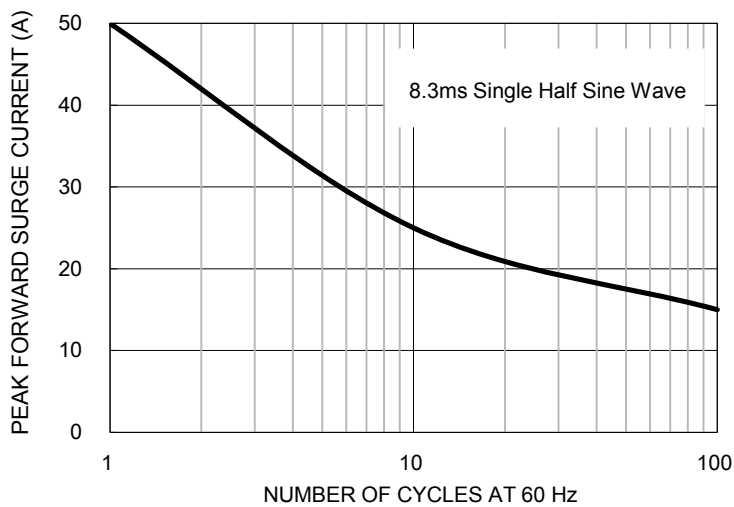


Fig6. Reverse Recovery Time Characteristic And Test Circuit Diagram

