

2A, 50V - 600V Surface Mount Super Fast Rectifier

FEATURES

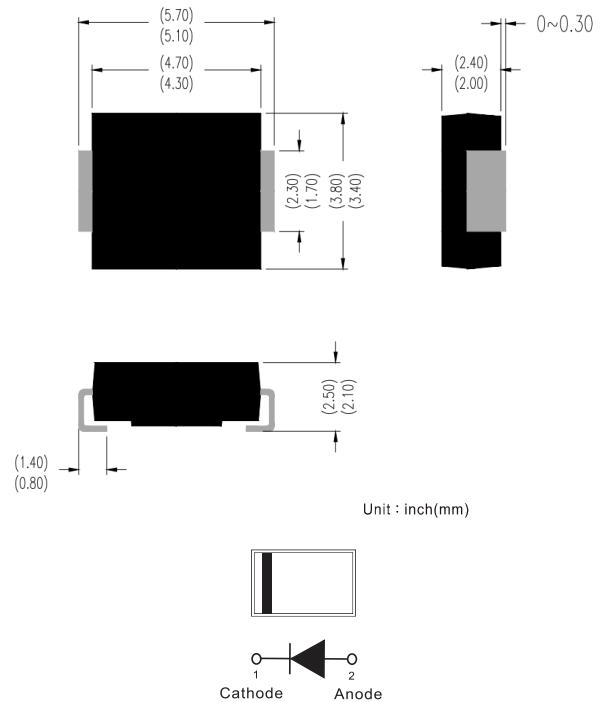
- Glass passivated junction chip
- Ideal for automated placement
- Low profile package
- Super fast recovery time for high efficiency
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

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

MECHANICAL DATA

- Case: DO-214AA (SMB)
- Molding compound meets UL 94V-0 flammability rating
- 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 ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	ES2A	ES2B	ES2C	ES2D	ES2F	ES2G	ES2H	ES2J	UNIT
Repetitive peak reverse voltage	V_{RRM}	50	100	150	200	300	400	500	600	V
Reverse voltage, total rms value	$V_{R(RMS)}$	30	70	105	140	210	280	350	420	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	500	600	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								$^\circ\text{C}$
Storage temperature	T_{STG}	- 55 to +150								$^\circ\text{C}$

THERMAL PERFORMANCE

PARAMETER	SYMBOL	LIMIT	UNIT
Junction to Lead Thermal Resistance	$R_{\theta JL}$	20	$^\circ\text{C/W}$
Junction to Ambient Thermal Resistance	$R_{\theta JA}$	75	$^\circ\text{C/W}$



ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode ⁽¹⁾	ES2A	$I_F = 2\text{A}, T_J = 25^\circ\text{C}$	V_F	-	0.95	V
	ES2B			-		V
	ES2C			-		V
	ES2D			-		V
	ES2F			-	1.30	V
	ES2G			-		V
	ES2H			-	1.70	V
	ES2J			-		V
Reverse current @ rated V_R per diode ⁽²⁾		$T_J = 25^\circ\text{C}$	I_R	-	10	μA
		$T_J = 125^\circ\text{C}$		-	350	μA
Junction capacitance	ES2A	1 MHz, $V_R = 4.0\text{V}$	C_J	25	-	pF
	ES2B				-	pF
	ES2C				-	pF
	ES2D				-	pF
	ES2F			20	-	pF
	ES2G				-	pF
	ES2H				-	pF
	ES2J				-	pF
Reverse recovery time		$I_F = 0.5\text{A}, I_R = 1.0\text{A}$ $I_{RR} = 0.25\text{A}$	t_{rr}	-	35	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

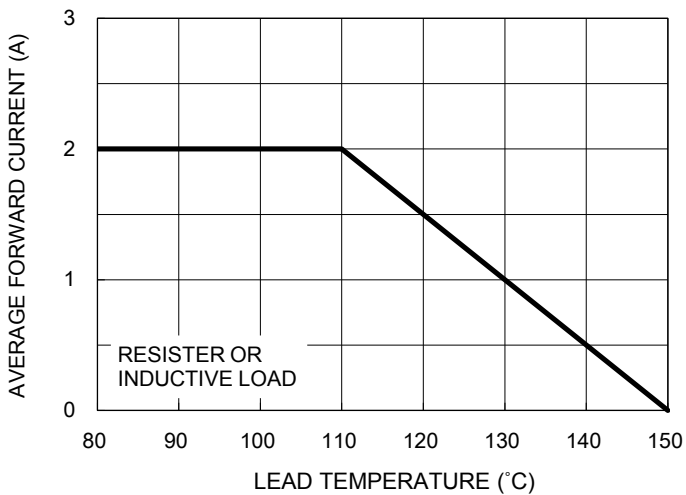


Fig2. Typical Junction Capacitance

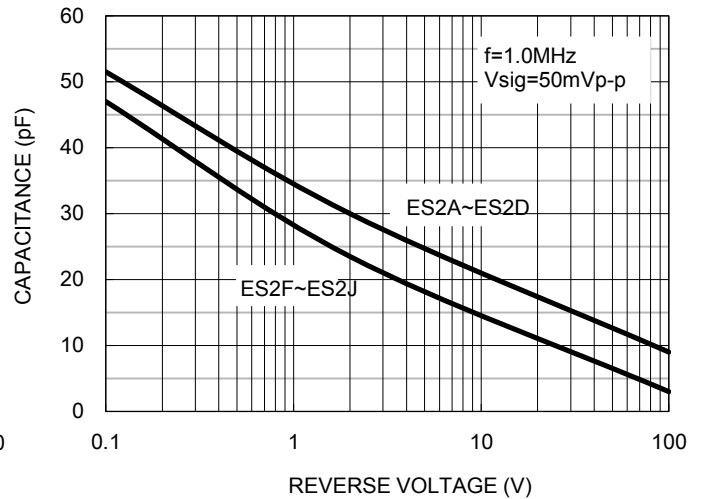


Fig3. Typical Reverse Characteristics

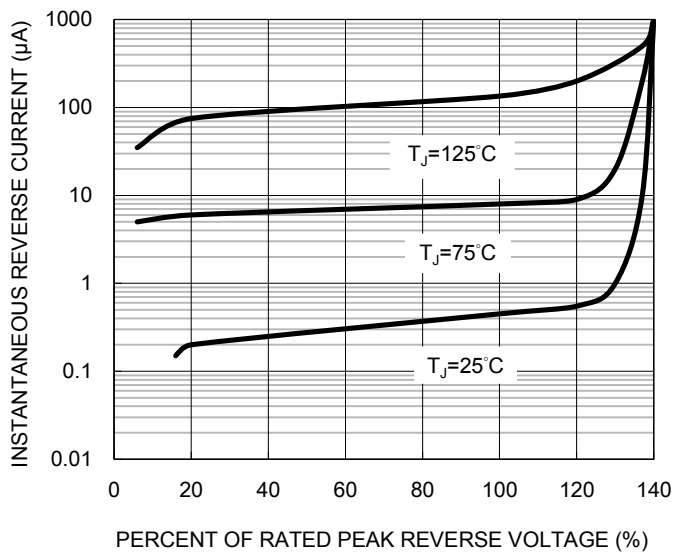


Fig4. Typical Forward Characteristics

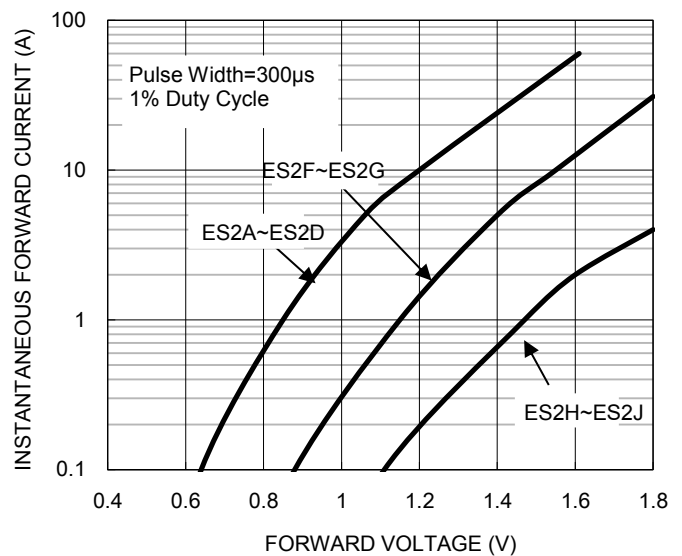


Fig5. Maximum Non-repetitive Forward Surge Current

