

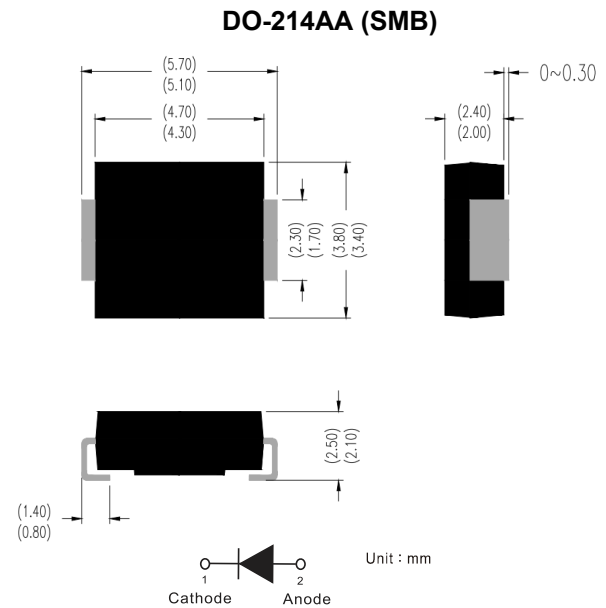
Surface Mount Super Fast Recovery Rectifier Diode

Features

- Glass passivated junction chip
- Ideal for automated placement
- Super fast recovery time for high efficiency
- High forward surge capability
- AEC-Q101 qualified
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

Mechanical Data

- Package: DO-214AA (SMB)
- Polarity: Indicated by cathode band
- Epoxy: UL 94V-0 rate flame retardant
- Mounting Position: Any



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

Parameter	Symbol	ES2A BQ	ES2B BQ	ES2C BQ	ES2D BQ	ES2F BQ	ES2G BQ	ES2H BQ	ES2J BQ	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								°C
Storage temperature	T_{STG}	- 55 to +150								°C

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

Parameter	Symbol	Limit	Unit
Junction to Lead Thermal Resistance	$R_{\theta JL}$	20	°C/W
Junction to Ambient Thermal Resistance	$R_{\theta JA}$	75	°C/W

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

Parameter		Conditions	Symbol	TYP	MAX	Unit
Forward voltage per diode ⁽¹⁾	ES2ABQ	$I_F = 2\text{A}, T_J = 25^{\circ}\text{C}$	V_F	-	0.95	V
	ES2BBQ			-		V
	ES2CBQ			-		V
	ES2DBQ			-		V
	ES2FBQ			-	1.30	V
	ES2GBQ			-		V
	ES2HBQ			-	1.70	V
	ES2JBQ			-		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	ES2ABQ	1 MHz, $V_R=4.0\text{V}$	C_J	25	-	pF
	ES2BBQ				-	pF
	ES2CBQ				-	pF
	ES2DBQ				-	pF
	ES2FBQ			20	-	pF
	ES2GBQ				-	pF
	ES2HBQ				-	pF
	ES2JBQ				-	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

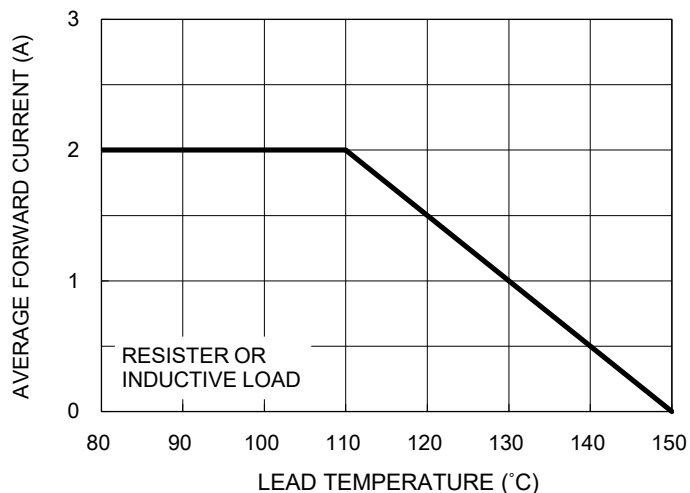


Fig2. Typical Junction Capacitance

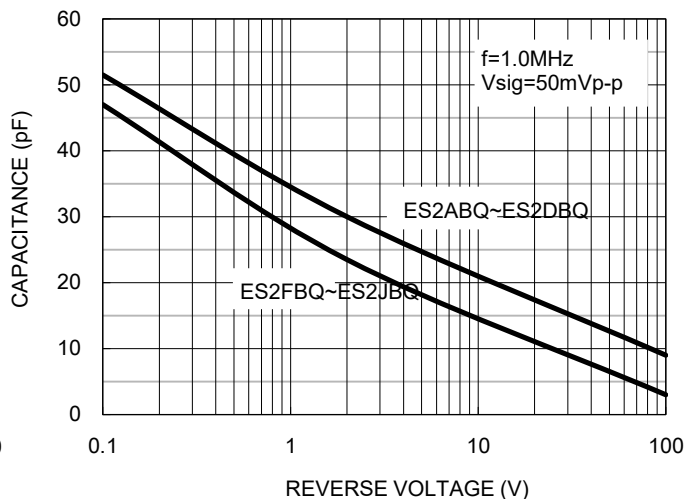


Fig3. Typical Reverse Characteristics

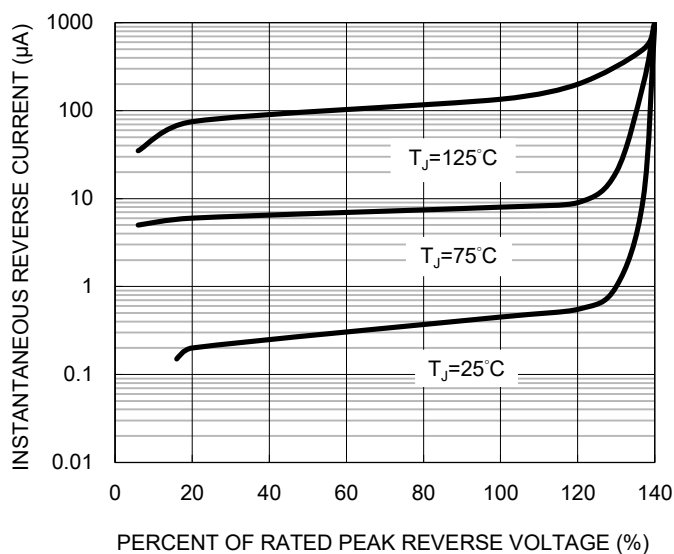


Fig4. Typical Forward Characteristics

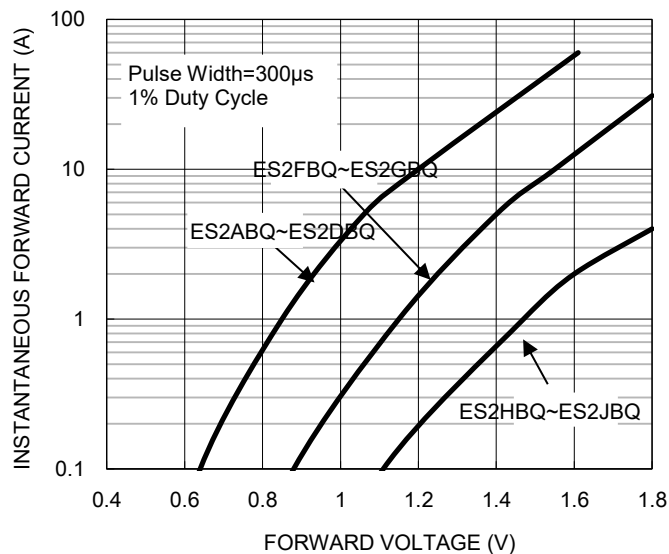


Fig5. Maximum Non-repetitive Forward Surge Current

