

3A, 50V - 600V Surface Mount Super Fast Rectifier

FEATURES

- Glass passivated chip junction
- Ideal for automated placement
- 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

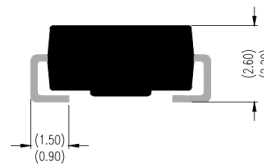
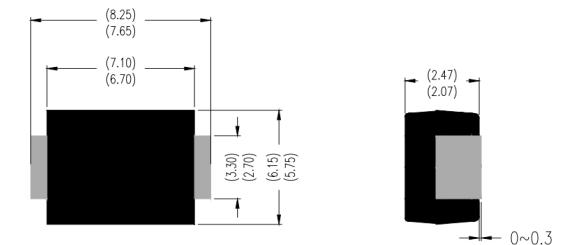
APPLICATIONS

- High frequency rectification
- Freewheeling application
- Switching mode converters and inverters in computer, automotive and telecommunication.

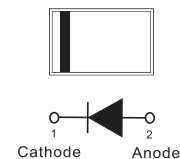
MECHANICAL DATA

- Case: DO-214AB (SMC)
- 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: 0.21 g (approximately)

DO-214AB (SMC)



Unit : inch(mm)



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

PARAMETER	SYMBOL	ES3A	ES3B	ES3C	ES3D	ES3F	ES3G	ES3H	ES3J	UNIT
Repetitive peak reverse voltage	V_{RRM}	50	100	150	200	300	400	500	600	V
Reverse voltage, total rms value	$V_{R(RMS)}$	35	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	$I_{F(AV)}$	3								A
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load per diode	I_{FSM}	100								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	TYP	UNIT
Junction-to-lead thermal resistance per diode	$R_{\theta JL}$	12	$^{\circ}C/W$
Junction-to-ambient thermal resistance per diode	$R_{\theta JA}$	47	$^{\circ}C/W$

ELECTRICAL SPECIFICATIONS ($T_A = 25^{\circ}C$ unless otherwise noted)						
PARAMETER		CONDITIONS	SYMBOL	TYP.	MAX.	UNIT
Forward voltage per diode ⁽¹⁾	ES3A ES3B ES3C ES3D	$I_F = 3A, T_J = 25^{\circ}C$	V_F	-	0.95	V
	ES3F ES3G			-	1.30	V
	ES3H ES3J			-	1.70	V
Reverse current @ rated V_R per diode ⁽²⁾		$T_J = 25^{\circ}C$	I_R	-	10	μA
		$T_J = 100^{\circ}C$		-	500	μA
Junction capacitance	ES3A ES3B ES3C ES3D	1 MHz, $V_R = 4.0V$	C_J	45	-	pF
	ES3F ES3G ES3H ES3J			30	-	pF
Reverse recovery time		$I_F = 0.5A, I_R = 1.0A$ $I_{RR} = 0.25A$	t_{rr}	-	35	ns

Notes:

1. Pulse test with $PW = 0.3$ ms
2. Pulse test with $PW = 30$ ms

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

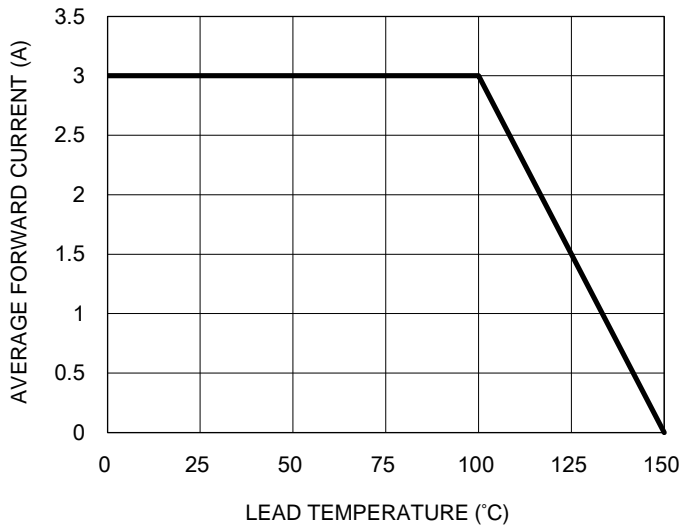


Fig.2 Typical Junction Capacitance

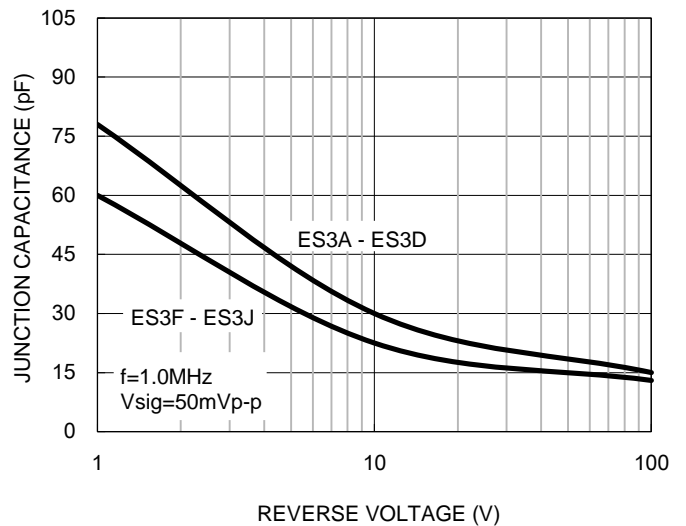


Fig.3 Typical Reverse Characteristics

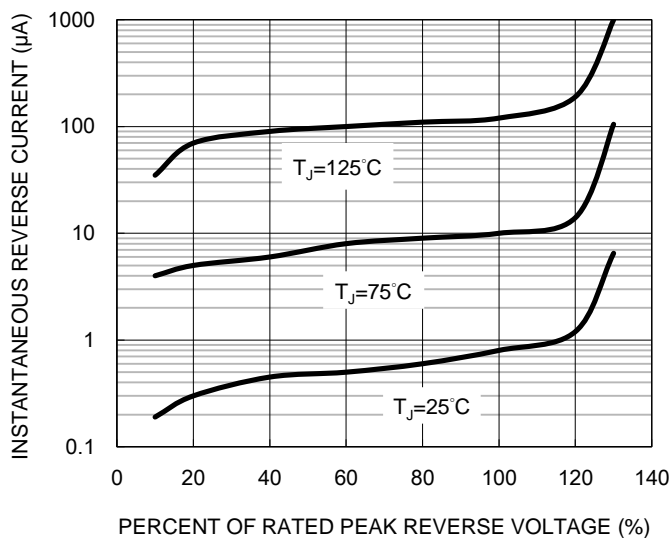


Fig.4 Typical Forward Characteristics

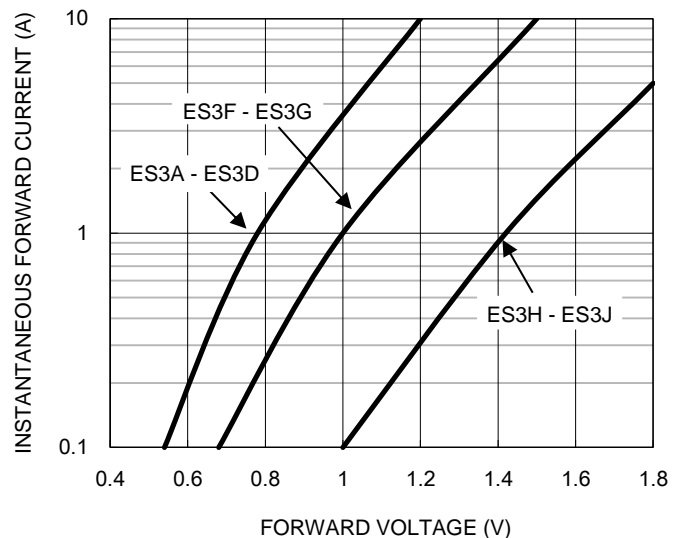


Fig.5 Maximum Non-repetitive Forward Surge Current

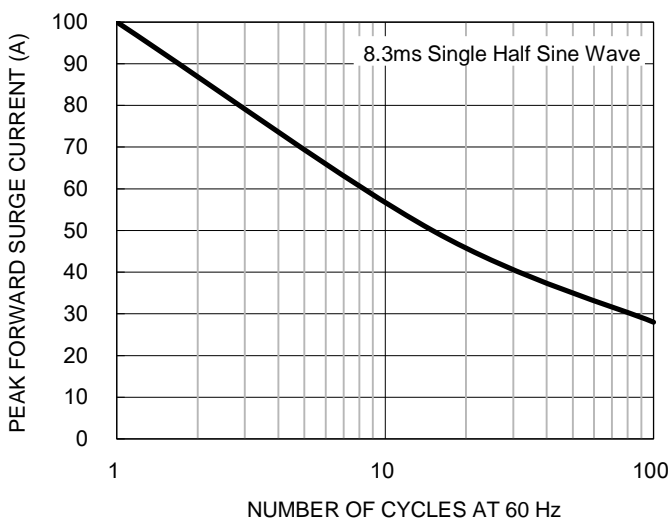


Fig.6 Typical Transient Thermal Characteristics

