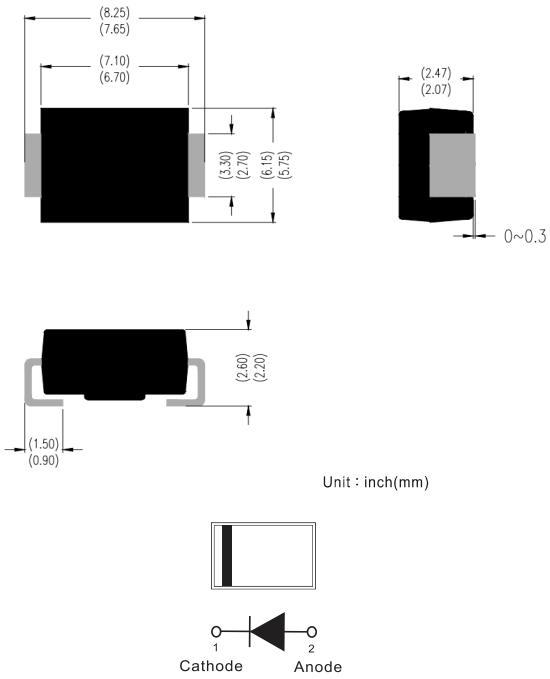
3A, 50V - 600V Surface Mount Super Fast Rectifier

Features

- Glass passivated junction chip
- Ideal for automated placement
- Super fast recovery time for high efficiency
- Built-in strain relief
- Comply with RoHS standard, halogen-free

SMC/DO-214AB



Mechanical Data

- Case: SMC/DO-214AB
- Polarity: Indicated by cathode band
- Epoxy: UL 94V-0 rate flame retardant
- Mounting Position : Any

Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Parameter	Symbol	ES3AC	ES3BC	ES3CC	ES3DC	ES3FC	ES3GC	ES3HC	ES3JC	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								°C
Storage temperature	T_{STG}	- 55 to +150								°C

Thermal Performance

Parameter	Symbol	Limit	Unit
Junction-to-lead thermal resistance per diode	$R_{\Theta JL}$	12	°C/W
Junction-to-ambient thermal resistance per diode	$R_{\Theta JA}$	47	°C/W

Electrical Specifications (T_A=25°C unless otherwise noted)

Parameter		Conditions		TYP	MAX	Unit
Forward voltage per diode (1)	ES3AC ES3BC ES3CC ES3DC	I_F = 3A, T_J = 25°C	V_F	-	0.95	V
	ES3FC ES3GC			-	1.30	V
	ES3HC ES3JC			-	1.70	V
Reverse current @ rated V_R per diode (2)		T_J = 25°C	I_R	-	10	μA
		T_J = 100°C		-	500	μA
Junction capacitance	ES3AC ES3BC ES3CC ES3DC	1 MHz, V_R=4.0V	C_J	45	-	pF
	ES3FC ES3GC ES3HC ES3JC			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°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

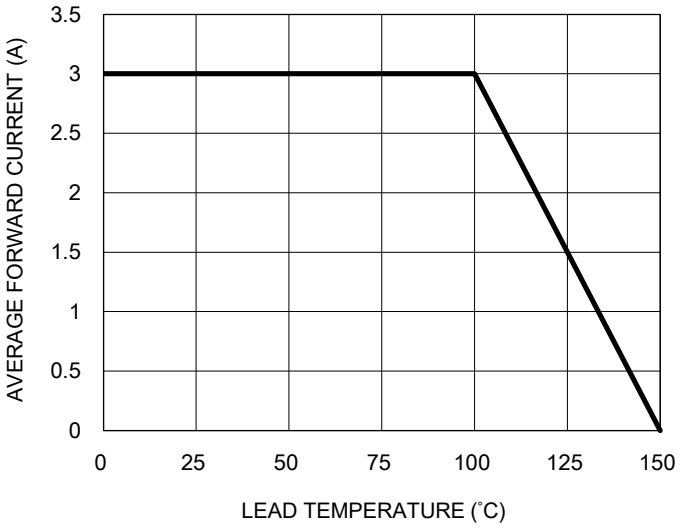


Fig.2 Typical Junction Capacitance

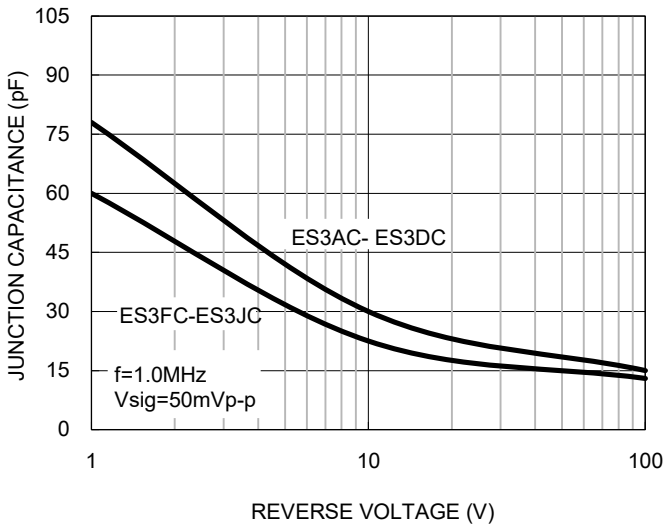


Fig.3 Typical Reverse Characteristics

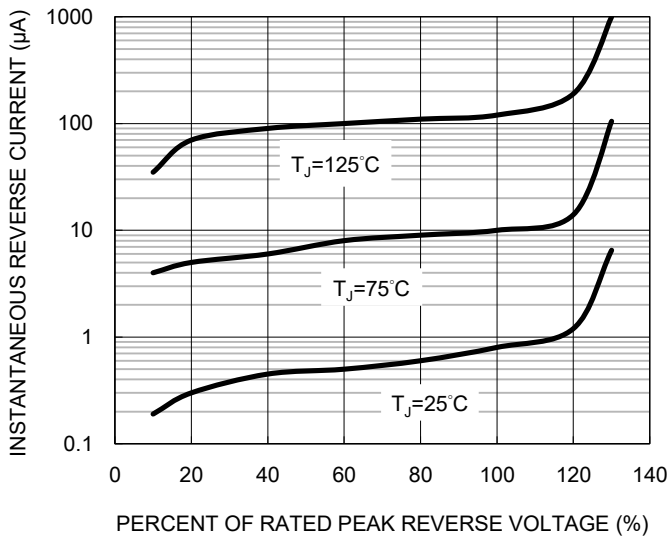


Fig.4 Typical Forward Characteristics

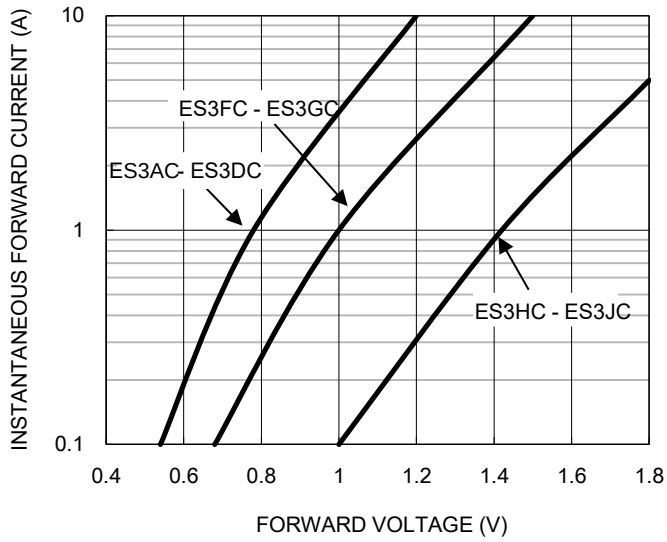


Fig.5 Maximum Non-repetitive Forward Surge Current

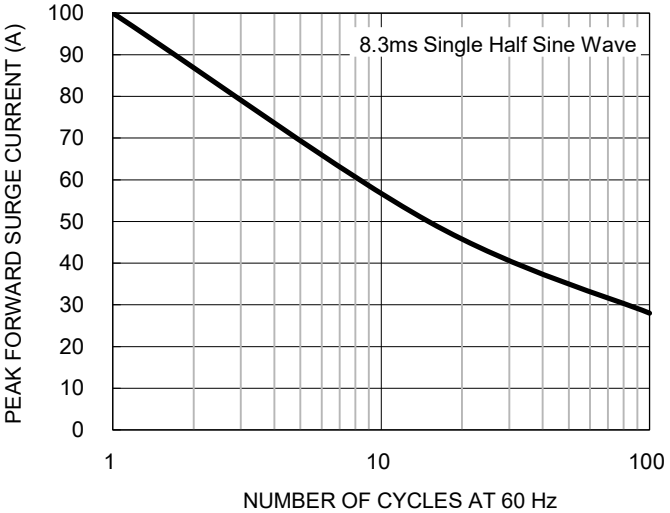


Fig.6 Typical Transient Thermal Characteristics