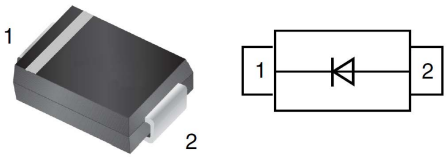
Super Fast Surface Mount Rectifier in DO-214AB/SMC

Features

- For surface mounted application
- Glass passivated junction chip
- Built-in strain relief
- ideal for automated placement
- Superfast recovery time for high efficiency



Mechanical Data

- **Case:** JEDEC DO-214AB(SMC)molded plastic
  Lead free; RoHS compliant
- **Molding Compound Flammability Rating:**
  UL 94 V-0
- **Terminals:** High temperature soldering guaranteed:
  260 °C/10 sec. at terminals

Maximum Ratings And Electrical Characteristics

Ratings at 25° C ambient temperature unless otherwise specified.
Single phase half-wave 60Hz,resistive or inductive load,for capacitive load current derate by 20%.

Parameter	Symbols	ES3A	ES3B	ES3D	ES3G	ES3J	ES3K	ES3M	Units
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum average forward rectified current See Fig. 1 @ T_L=90°C	$I_{(AV)}$	3.0							Amp
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	100.0							Amps
Maximum instantaneous forward voltage @ 1.0A	V_F	0.95			1.25	1.7			Volts
Maximum DC reverse current @T_A=25°C at rated DC blocking voltage @T_A=125°C	I_R	10.0 500							uA
Maximum reverse recovery time (Note 1)	t_{rr}	35							nS
Typical junction capacitance (Note 2)	C_J	50							pF
Typical thermal resistance (Note 3)	$R_{\theta JA}$ $R_{\theta JL}$	47.0 12.0							°C/W
Operating temperature range	T_J	-55 to +150							°C
Storage temperature range	T_{STG}	-55 to +150							°C

Notes: 1. Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A
2. Measured at 1 MHz and Applied V_R=4.0 Volts
3. Thermal Resistance from Junction to Ambient and from Junction to Lead Mounted on P.C.B. with 0.2" x 0.2" (5.0 x 5.0 mm) Copper Pad Areas

Typical Characteristics (T_{amb} = 25 °C unless otherwise specified)

Figure 1.Forward Current Derating Curve

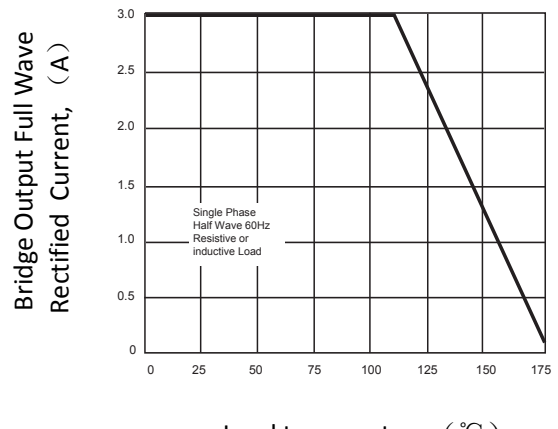


Figure 2.Maximum Non-Repetitive Peak Forward Surge Current

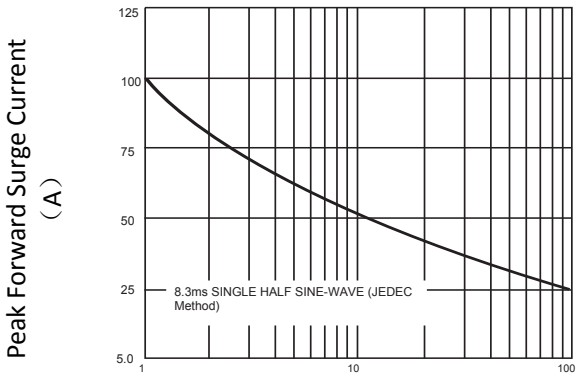


Figure 3. Typical Instantaneous Forward Characteristics

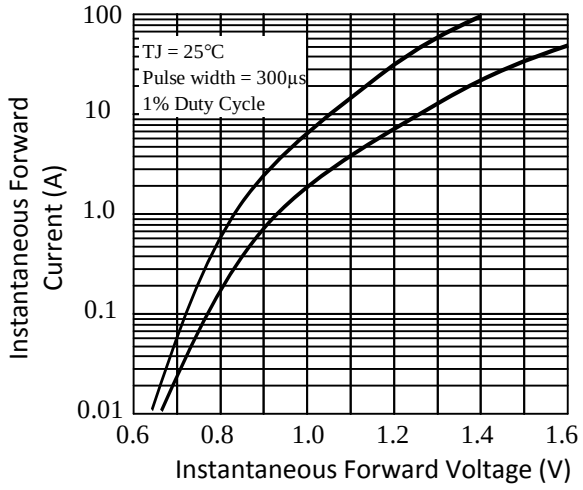


Figure 4. Typical Reverse Characteristics

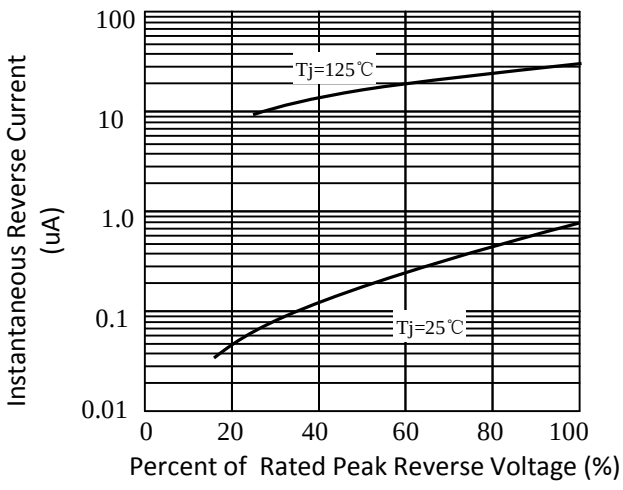


Figure 5. Typical Junction Capacitance

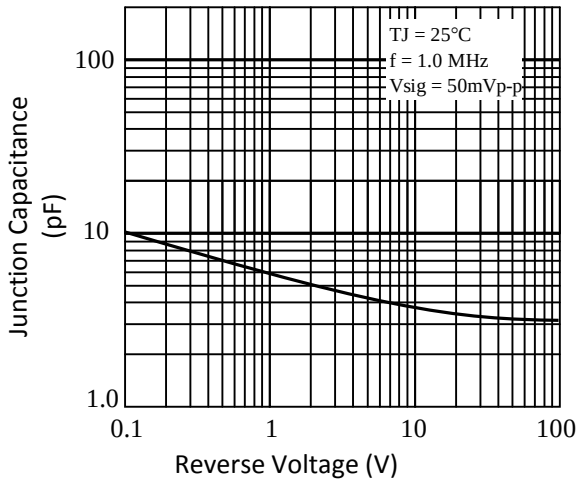
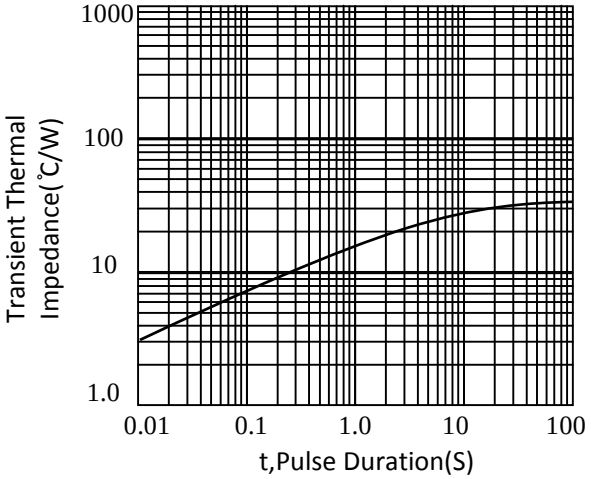
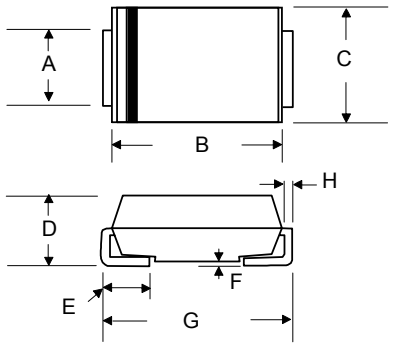


Figure 6. Typical Transient Thermal Impedance

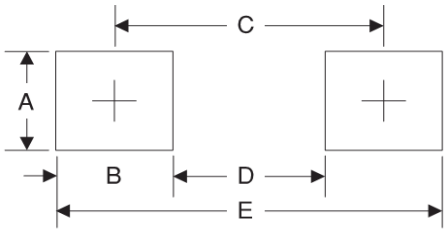


Package Dimensions



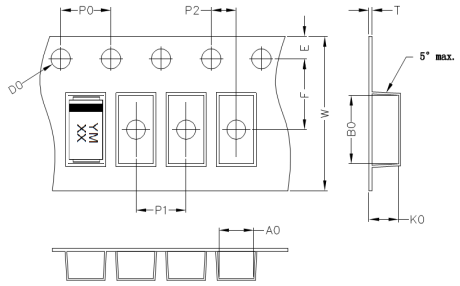
Symbol	Dimensions in millimeters	
	Min	Max
A	2.90	3.20
B	6.60	7.11
C	5.59	6.22
D	2.06	2.62
E	0.76	1.52
F	-	0.20
G	7.75	8.13
H	0.15	0.31

PAD Dimensions



Symbol	Unit (mm)	Unit (inch)
A	3.30	0.130
B	2.50	0.098
C	6.80	0.268
D	4.40	0.173
E	9.40	0.370

Packing Information



A0	B0	K0	D0	E	F
6.05	8.31	2.54	1.55	1.75	7.50
P0	**P1**	**P2**	**T**	**W**	**Tolerance**
4.0	8.0	2.0	0.25	16	0.1

Ordering information

Order code	Package	Packaging option	Base quantity	Packaging specification
ES3A thru ES3M	DO-214AB/SMC	Tape and reel	3000pcs / reel	EIA STD RS-481

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