

ES3A/AB - ES3D/DB

3.0A SURFACE MOUNT SUPER-FAST RECTIFIER

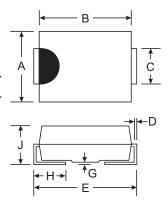
Features

- Glass Passivated Die Construction
- Super-Fast Recovery Time For High Efficiency
- Low Forward Voltage Drop and High Current Capability
- Surge Overload Rating to 100A Peak
- Ideally Suited for Automated Assembly
- Lead Free Finish/RoHS Compliant (Note 4)

Mechanical Data

Case: SMB/SMC

- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band or Cathode Notch
- Mounting Position: Any
- Ordering Information: See Page 3
- Marking: Type Number, See Page 3
- SMB Weight: 0.093 grams (approximate)
- SMC Weight: 0.21 grams (approximate)



Dim	SI	/В	SMC			
	Min	Max	Min	Max		
Α	3.30	3.94	5.59	6.22		
В	4.06	4.57	6.60	7.11		
С	1.96	2.21	2.75	3.18		
D	0.15	0.31	0.15	0.31		
Е	5.00	5.59	7.75	8.13		
G	0.10	0.20	0.10	0.20		
Н	0.76	1.52	0.76	1.52		
J	2.00	2.62	2.00	2.62		
All Dimensions in mm						

A, B, C, D, Suffix Designates SMC Package AB, BB, CB, DB Suffix Designates SMB Package

Maximum Ratings and Electrical Characteristics @ TA = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic		Symbol	ES3A/AB	ES3B/BB	ES3C/CB	ES3D/DB	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage		V _{RRM} V _{RWM} V _R	50	100	150	200	V
RMS Reverse Voltage		V _{R(RMS)}	35	70	105	140	V
Average Rectified Output Current @ T _T = 100°C		Io	3.0			•	Α
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load (JEDEC Method)		I _{FSM}	100				А
Forward Voltage	@ I _F = 3.0A	V _{FM}		0	.9		V
$ \begin{array}{llllllllllllllllllllllllllllllllllll$		I _{RM}	10 500				μА
Reverse Recovery Time (Note 3)		t _{rr}	25				ns
Typical Total Capacitance (Note 2)		Ст	45				pF
Typical Thermal Resistance, Junction to Terminal (Note 1)		R ₀ JT	15				°C/W
Operating and Storage Temperature Range		T _{j,} T _{STG}	-65 to +150				°C

Notes:

- 1. Unit mounted on PC board with 5.0 mm² (0.013 mm thick) copper pads as heat sink.
- 2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
- 3. Measured with $I_F = 0.5A$, $I_R = 1.0A$, $I_{rr} = 0.25A$. See Figure 5.
- 4 RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see EU Directive Annex Notes 5 and 7.

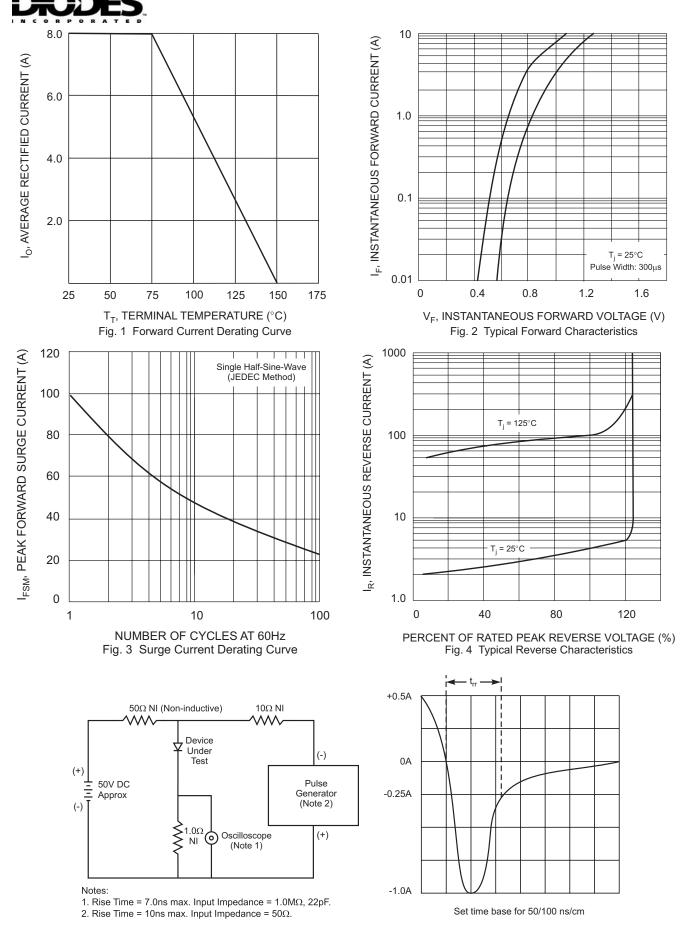


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit



Ordering Information (Note 5)

Device*	Packaging	Shipping
ES3x-13-F	SMC	3000/Tape & Reel
ES3xB-13-F	SMB	3000/Tape & Reel

^{*} x = Device type, e.g. ES3A-13-F (SMC package); ES3AB-13-F (SMB package).

Notes: 5. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



XXX = Product type marking code, ex: ES3A (SMC package)
XXXX = Product type marking code, ex: ES3AB (SMB package)
J|| = Manufacturers' code marking
YWW = Date code marking
Y = Last digit of year ex: 2 for 2002
WW = Week code 01 to 52

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