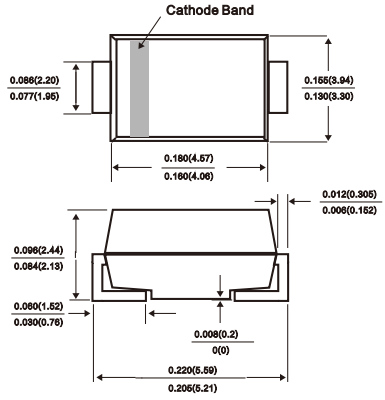
## SURFACE MOUNT SUPER FAST RECTIFIER

### FEATURES

- Lead Free Finish/Rohs Compliant (Note1) ("P"Suffix designates Compliant. See ordering information)
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL rating 1
- Easy Pick And Place
- High Temp Soldering: 260°C for 10 Seconds At Terminals
- Ultrafast Recovery Times For High Efficiency

SMB(DO-214AA)




Dimensions in inches and (millimeters)

### MECHANICAL DATA

**Case**: JEDEC DO-214AA molded plastic body over passivated chip
**Terminals**: Solder plated, solderable per MIL-STD-750, Method 2026
**Polarity**: Color band denotes cathode end
**Mounting Position**: Any
**Weight**:0.005 ounce, 0.138 grams

### 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%.

| MDD Catalog Number | SYMBOLS | ES2A | ES2B | ES2C | ES2D | ES2E | ES2G | ES2J | ES2K | ES2M | UNITS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Maximum repetitive peak reverse voltage | $V_{RRM}$ | 50 | 100 | 150 | 200 | 300 | 400 | 600 | 800 | 1000 | VOLTS |
| Maximum RMS voltage | $V_{RMS}$ | 35 | 70 | 105 | 140 | 210 | 280 | 420 | 560 | 700 | VOLTS |
| Maximum DC blocking voltage | $V_{DC}$ | 50 | 100 | 150 | 200 | 300 | 400 | 600 | 800 | 1000 | VOLTS |
| Maximum average forward rectified current at $T_L$=55°C | $I_{(AV)}$ | 2.0 | | | | | | | | | Amps |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$ | 50.0 | | | | | | | | | Amps |
| Maximum instantaneous forward voltage at 2.0A | $V_F$ | 0.975 | | | | 1.35 | | | 1.7 | | Volts |
| Maximum DC reverse current $T_A$=25°C<br>at rated DC blocking voltage $T_A$=100°C | $I_R$ | 5.0<br>150.0 | | | | | | | | | μA |
| Maximum reverse recovery time (NOTE 1) | $t_{rr}$ | 50 | | | | 60 | | | 100 | | ns |
| Typical junction capacitance (NOTE 2) | $C_J$ | 25.0 | | | | | | | | | pF |
| Typical thermal resistance (NOTE 3) | $R_{\theta JA}$ | 20.0 | | | | | | | | | °C/W |
| Operating junction and storage temperature range | $T_J$ $T_{STG}$ | -50 to +150 | | | | | | | | | °C |

**Note:**1.Reverse recovery condition $I_F$=0.5A,$I_R$=1.0A,Irr=0.25A
2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.
3.Pulse test: Pulse width 200 sec, Duty cycle 2%
4.High Temperature Solder Exemptions Applied, see EU Directive Annex 7.


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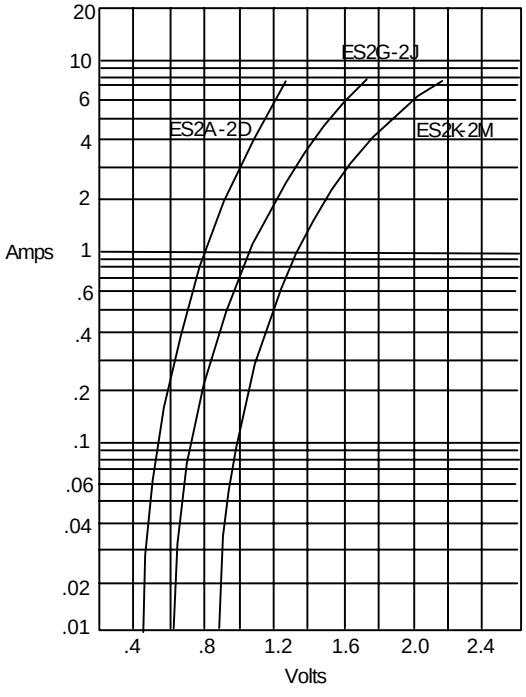
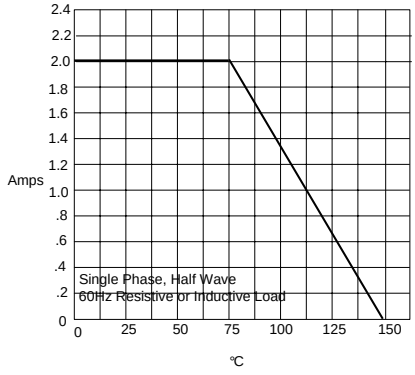
Figure 1
Typical Forward Characteristics



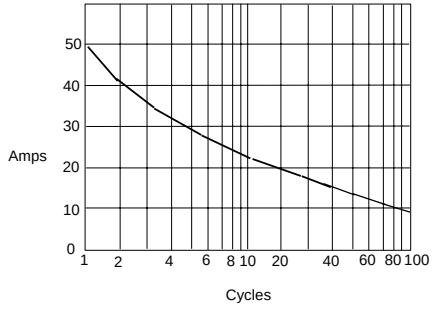

Instantaneous Forward Current - Amperes *versus*
Instantaneous Forward Voltage - Volts

Figure 2
Forward Derating Curve



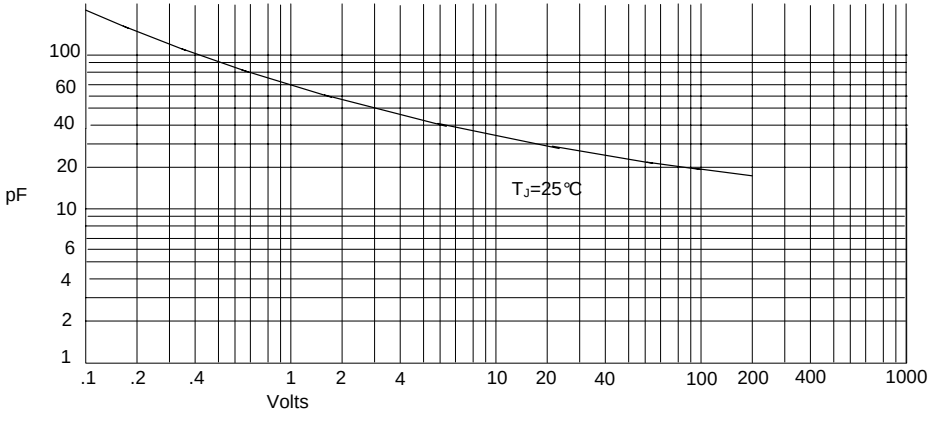

Average Forward Rectified Current - Amperes *versus*
Ambient Temperature - ℃

Figure 4
Peak Forward Surge Current




Peak Forward Surge Current - Amperes *versus*
Number Of Cycles At 60Hz - Cycles

Figure 3
Junction Capacitance




Junction Capacitance - pF *versus*
Reverse Voltage - Volts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