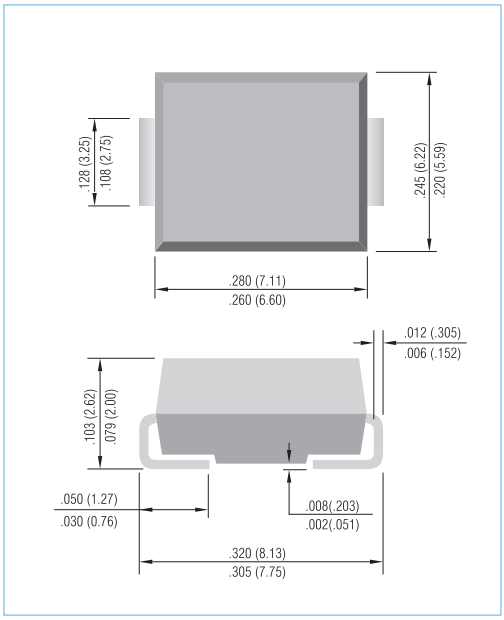
# ER3A~ER3J

## SURFACE MOUNT RECTIFIER

**VOLTAGE** 50 to 600 Volts **CURRENT** 3.0 Amperes

SMC / DO-214AB Unit: inch ( mm )

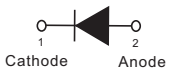



### FEATURES

- For surface mounted applications
- High temperature metallurgically bonded-no compression contacts as found in other diode-constructed rectifiers
- Glass passivated junction
- Built-in strain relief
- Easy pick and place
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Lead free in comply with EU RoHS 2002/95/EC directives

### MECHANICALDATA

- Case: JEDEC DO-214AB molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Indicated by cathode band
- Standard packaging: 16mm tape (EIA-481)
- Weight: 0.0082 ounce, 0.2325 gram




### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

| PARAMETER | SYMBOL | ER3A | ER3B | ER3C | ER3D | ER3E | ER3G | ER3J | UNITS |
|---|---|---|---|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | $V_{RRM}$ | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V |
| Maximum RMS Voltage | $V_{RMS}$ | 35 | 70 | 105 | 140 | 210 | 280 | 420 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V |
| Maximum Average Forward Current at $T_L$=75°C | $I_{F(AV)}$ | 3.0 | | | | | | | A |
| Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load(JEDEC method) | $I_{FSM}$ | 100 | | | | | | | A |
| Maximum Forward Voltage at 3.0A | $V_F$ | 0.95 | | | | 1.25 | | 1.7 | V |
| Maximum DC Reverse Current $T_J$=25 °C<br>at Rated DC Blocking Voltage $T_J$=100 °C | $I_R$ | 1.0<br>200 | | | | | | | µA |
| Maximum Reverse Recovery Time (Note 1) | $t_{rr}$ | 35 | | | | | | | ns |
| Typical Junction capacitance (Note 2) | $C_J$ | 45 | | | | | | | pF |
| Typical thermal Resistance (Note 3) | $R_{\theta JL}$ | 16 | | | | | | | °C / W |
| Operating and Storage Temperature Range | $T_J$,$T_{STG}$ | -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. 8.0 $mm^2$ ( .013mm thick ) land areas.

# ER3A~ER3J

## RATING AND CHARACTERISTIC CURVES

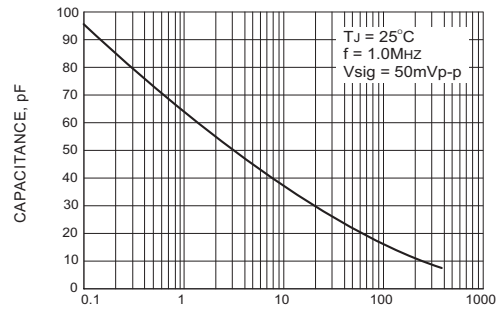



FIG.1 TYPICAL JUNCTION CAPACITANCE

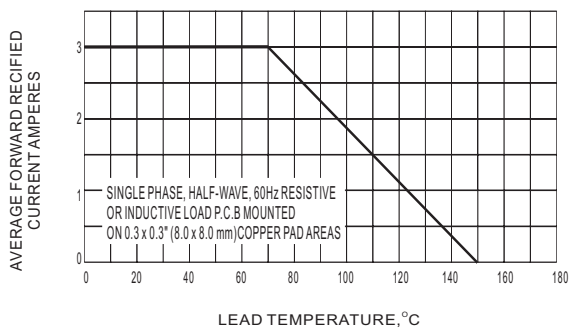



FIG.2 MAXIMUM AVERAGE FORWARD CURRENT RATING

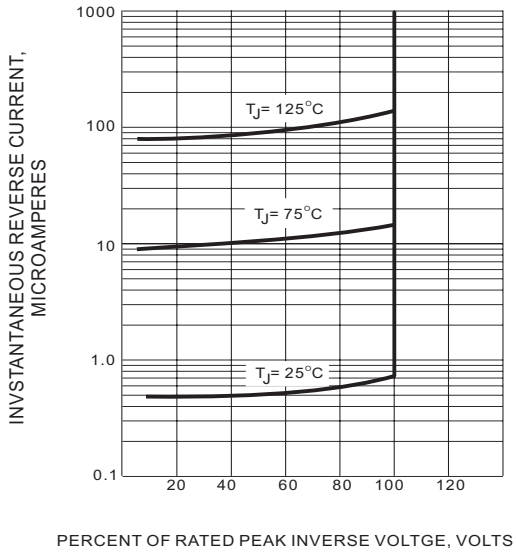



FIG.3 TYPICAL REVERSE CHARACTERISTICS

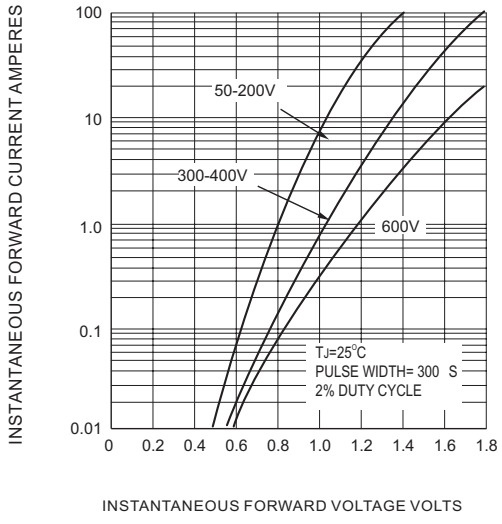



FIG.4 TYPICAL FORWARD CHARACTERISTICS

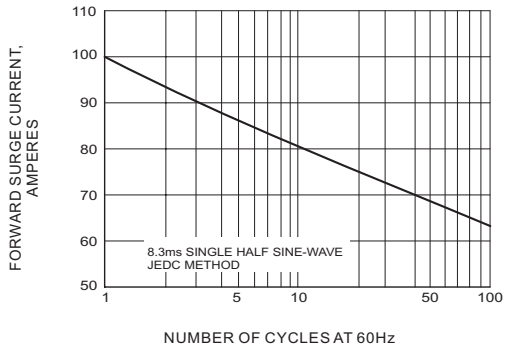
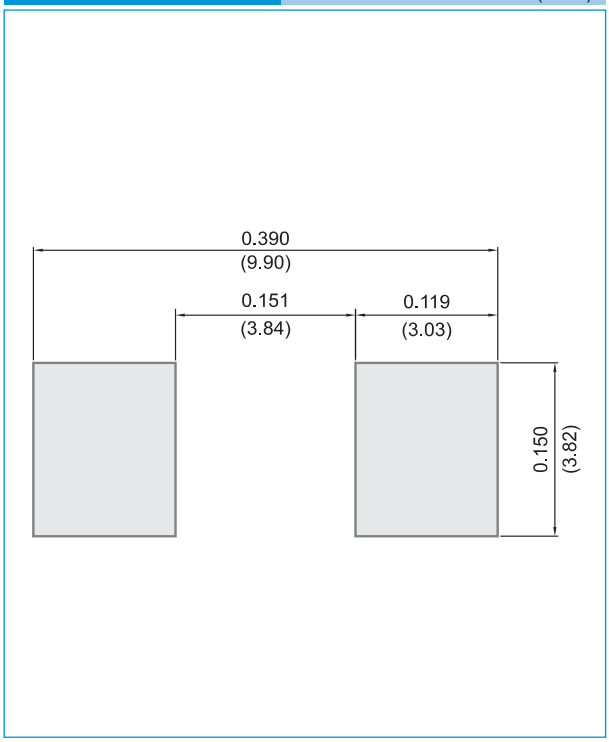



FIG.5 MAXIMUM NON-REPEITIVE SURGE CURRENT

# ER3A~ER3J

## MOUNTING PAD LAYOUT

SMC Unit: inch ( mm )




## ORDER INFORMATION

- Packing information

  T/R - 3K per 13" plastic Reel

  T/R - 0.5Kper 7" plastic Reel

# ER3A~ER3J

**For example :**

**RB500V-40_R2_00001**

**Part No.**

**Serial number**

**Version code means HF**

**Packing size code means 13"**

**Packing type means T/R**

| Packing Code XX | | | | Version Code XXXXX | | |
|---|---|---|---|---|---|---|
| Packing type | 1st Code | Packing size code | 2nd Code | HF or RoHS | 1st Code | 2nd~5th Code |
| T/B | A | N/A | 0 | HF | 0 | serial number |
| T/R | R | 7" | 1 | RoHS | 1 | serial number |
| B/P | B | 13" | 2 | | | |
| T/P | T | 26mm | X | | | |
| TRR | S | 52mm | Y | | | |
| TRL | L | PBCU | U | | | |
| FORMING | F | PBCD | D | | | |

**Part No_packing code_Version**

ER3A_R1_00001
ER3A_R1_10001
ER3A_R2_00001
ER3A_R2_10001

# ER3A~ER3J

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