

## ER5A THRU ER5J

### Features

- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- High Temp Soldering: 260°C for 10 Seconds At Terminals
- Super Fast Recovery Times For High Efficiency
- Halogen free available upon request by adding suffix "-HF"

### Maximum Ratings

- Operating Temperature: -50°C to +150°C
- Storage Temperature: -50°C to +150°C
- Maximum Thermal Resistance; 16°C/W Junction To Lead

| MCC Part Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------|----------------------------------------|---------------------|-----------------------------|
| ER5A            | ER5A           | 50V                                    | 35V                 | 50V                         |
| ER5B            | ER5B           | 100V                                   | 70V                 | 100V                        |
| ER5C            | ER5C           | 150V                                   | 105V                | 150V                        |
| ER5D            | ER5D           | 200V                                   | 140V                | 200V                        |
| ER5G            | ER5G           | 400V                                   | 280V                | 400V                        |
| ER5J            | ER5J           | 600V                                   | 420V                | 600V                        |

### Electrical Characteristics @ 25°C Unless Otherwise Specified

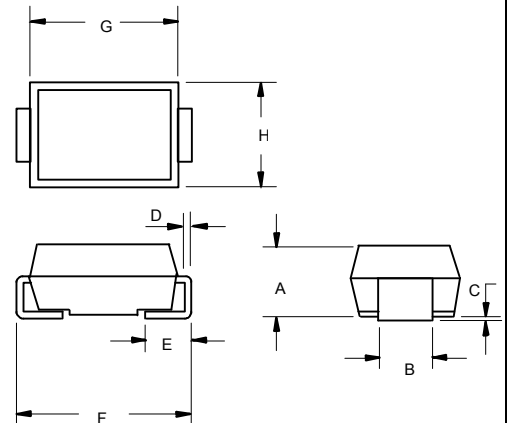
|                                                                  |             |                           |                                                       |
|------------------------------------------------------------------|-------------|---------------------------|-------------------------------------------------------|
| Average Forward Current                                          | $I_{F(AV)}$ | 5.0A                      | $T_A = 55^\circ\text{C}$                              |
| Peak Forward Surge Current                                       | $I_{FSM}$   | 175A                      | 8.3ms, half sine                                      |
| Maximum Instantaneous Forward Voltage<br>ER5A-5D<br>ER5G<br>ER5J | $V_F$       | 1.00V<br>1.30V<br>1.70V   | $I_{FM} = 5.0A$ ;<br>$T_A = 25^\circ\text{C}^*$       |
| Maximum DC Reverse Current At Rated DC Blocking Voltage          | $I_R$       | 10 $\mu$ A<br>200 $\mu$ A | $T_A = 25^\circ\text{C}$<br>$T_A = 100^\circ\text{C}$ |
| Maximum Reverse Recovery Time                                    | $T_{rr}$    | 35ns                      | $I_F = 0.5A$ , $I_R = 1.0A$ ,<br>$I_{rr} = 0.25A$     |
| Typical Junction Capacitance<br>ER5A-5G<br>ER5J                  | $C_J$       | 100PF<br>65PF             | Measured at<br>1.0MHz, $V_R = 4.0V$                   |

\*Pulse test: Pulse width 300  $\mu$ sec, Duty cycle 1%

Notes: 1. High Temperature Solder Exemption Applied, see EU Directive Annex Notes 7.

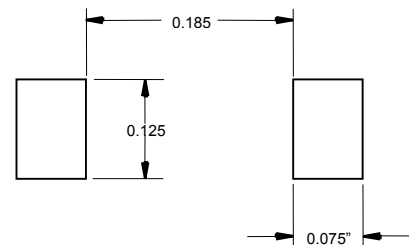
## 5 Amp Superfast Recovery Rectifiers 50 to 600 Volts

### DO-214AB (SMC)(LEAD FRAME)



| DIM | INCHES |      | MM    |       | NOTE |
|-----|--------|------|-------|-------|------|
|     | MIN    | MAX  | MIN   | MAX   |      |
| A   | .079   | .103 | 2.00  | 2.62  |      |
| B   | .108   | .128 | 2.75  | 3.25  |      |
| C   | .002   | .008 | 0.051 | 0.203 |      |
| D   | .006   | .012 | 0.152 | 0.305 |      |
| E   | .030   | .060 | 0.76  | 1.52  |      |
| F   | .305   | .320 | 7.75  | 8.13  |      |
| G   | .260   | .280 | 6.60  | 7.11  |      |
| H   | .220   | .245 | 5.59  | 6.22  |      |

### SUGGESTED SOLDER PAD LAYOUT



## ER5A THRU ER5J

FIG.1- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

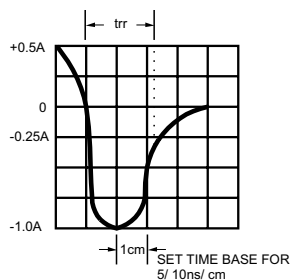
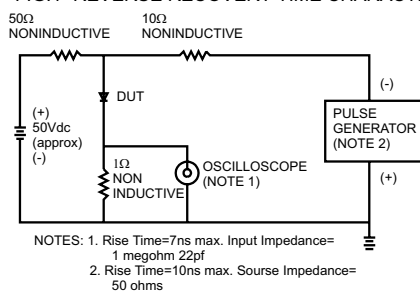


FIG.2- MAXIMUM AVERAGE FORWARD CURRENT DERATING

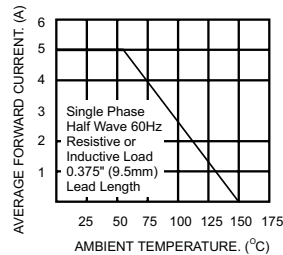


FIG.3- TYPICAL REVERSE CHARACTERISTICS

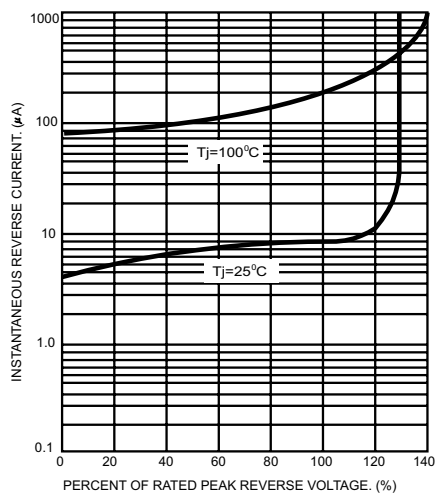


FIG.5- TYPICAL FORWARD CHARACTERISTICS

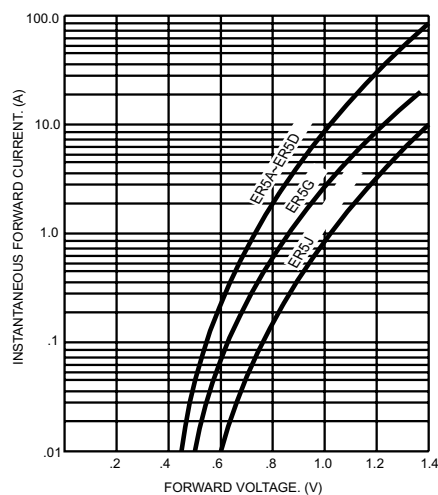


FIG.4- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

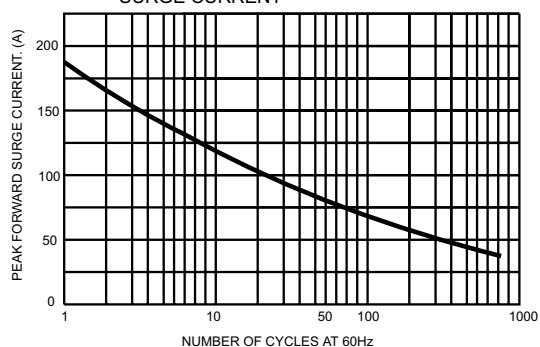
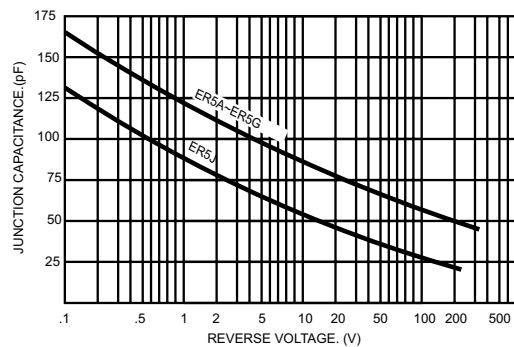


FIG.6- TYPICAL JUNCTION CAPACITANCE





## Ordering Information :

| Device         | Packing               |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel: 3Kpcs/Reel |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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