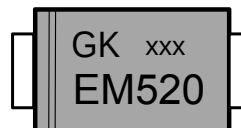


## FEATURES

- \* Ideal for surface mount applications
- \* Easy pick and place
- \* Built-in strain relief
- \* Low forward voltage drop

## MECHANICAL DATA

- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Metallurgically bonded construction
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any



\_\_\_\_ LOGO      GK      xxx      CODE \_\_\_\_\_

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

| Parameter                                                                                               | Symbols         | EM520      | Units              |
|---------------------------------------------------------------------------------------------------------|-----------------|------------|--------------------|
| Maximum Repetitive Peak Reverse Voltage                                                                 | $V_{RRM}$       | 2000       | V                  |
| Maximum Average Forward Rectified Current<br>at $T_C = 100^\circ\text{C}$                               | $I_{F(AV)}$     | 1          | A                  |
| Peak Forward Surge Current 8.3 ms Single Half<br>Sine Wave Superimposed on Rated Load<br>(JEDEC Method) | $I_{FSM}$       | 30         | A                  |
| Maximum Instantaneous Forward Voltage at 1 A                                                            | $V_F$           | 1.15       | V                  |
| Maximum Reverse Current<br>$T_J = 25^\circ\text{C}$<br>$T_J = 125^\circ\text{C}$                        | $I_R$           | 5<br>50    | $\mu\text{A}$      |
| Typical Junction Capacitance <sup>1)</sup>                                                              | $C_j$           | 20         | pF                 |
| Typical Thermal Resistance <sup>2)</sup>                                                                | $R_{\theta JA}$ | 95         | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range                                                                 | $T_J, T_{stg}$  | -55 ~ +150 | $^\circ\text{C}$   |

Measured at 1 MHz and applied reverse voltage of 4 V D.C  
P.C.B. mounted with 0.2 X 0.2" (5 X 5 mm) copper pad areas.

## RATING AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

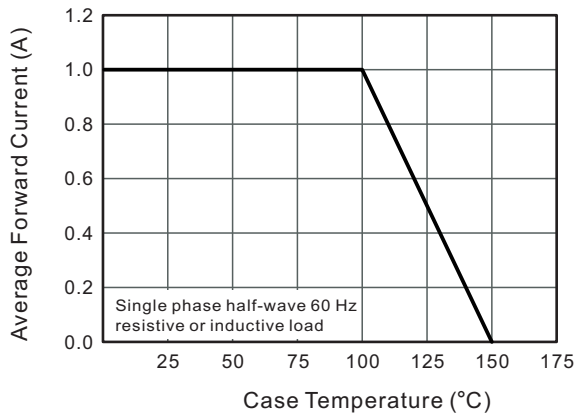


FIG.2-TYPICAL FORWARD CHARACTERISTICS

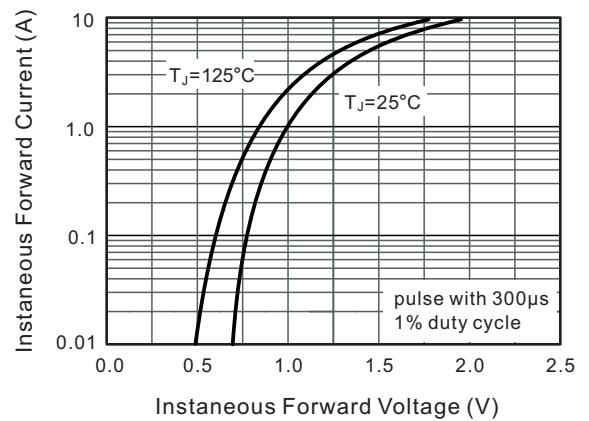


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

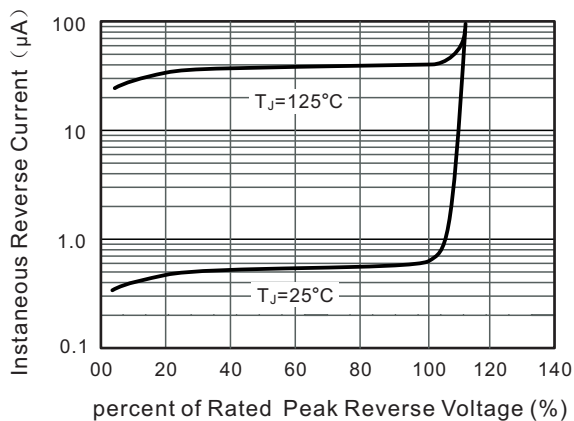


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

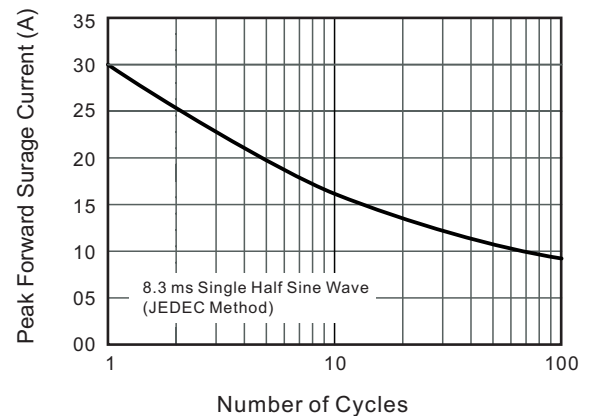
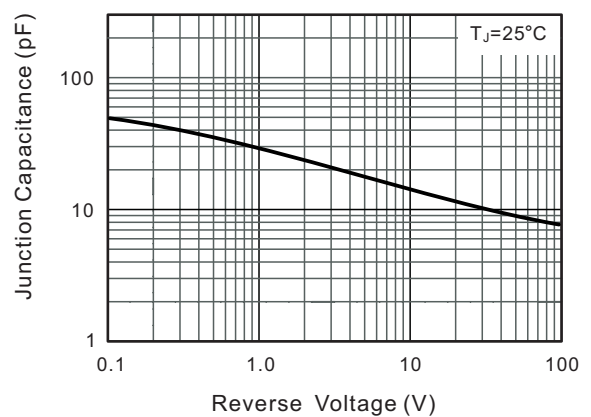
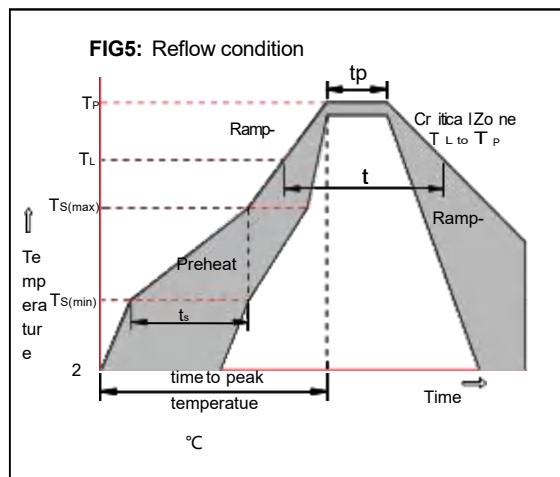


FIG.5-TYPICAL JUNCTION CAPACITANCE



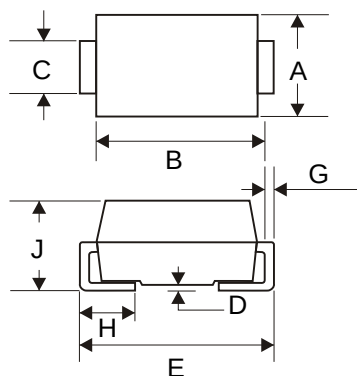
## Soldering parameters

| Reflow Condition                                        |                                   | Pb-Free assembly<br>(see as below) |
|---------------------------------------------------------|-----------------------------------|------------------------------------|
| Pre Heat                                                | -Temperature Min ( $T_{s(min)}$ ) | +150 °C                            |
|                                                         | -Temperature Max( $T_{s(max)}$ )  | +200 °C                            |
|                                                         | -Time (Min to Max) (ts)           | 60-180 secs.                       |
| Average ramp up rate (Liquid us Temp ( $T_L$ ) to peak) |                                   | 3 °C/sec. Max                      |
| $T_{s(max)}$ to $T_L$ - Ramp-up Rate                    |                                   | 3 °C/sec. Max                      |
| Reflow                                                  | -Temperature( $T_L$ )(Liquid us)  | +217 °C                            |
|                                                         | -Temperature( $t_L$ )             | 60-150 secs.                       |
| Peak Temp ( $T_P$ )                                     |                                   | +260(+0/-5) °C                     |
| Time within 5 °C of actual Peak Temp ( $t_p$ )          |                                   | 30 secs. Max                       |
| Ramp-down Rate                                          |                                   | 6 °C/sec. Max                      |
| Time 25 °C to Peak Temp ( $T_P$ )                       |                                   | 8 min. Max                         |
| Do not exceed                                           |                                   | +260 °C                            |

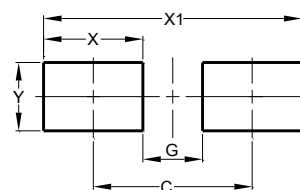


## Package Dimensions & Suggested Pad Layout

### SMA



| SMA                  |      |      |
|----------------------|------|------|
| Dim                  | Min  | Max  |
| A                    | 2.40 | 2.79 |
| B                    | 3.99 | 4.50 |
| C                    | 1.32 | 1.47 |
| D                    | -    | 0.20 |
| E                    | 4.93 | 5.28 |
| G                    | 0.15 | 0.31 |
| H                    | 0.76 | 1.52 |
| J                    | 1.98 | 2.29 |
| All Dimensions in mm |      |      |



| Dimensions | Value (in mm) |
|------------|---------------|
| C          | 4.20          |
| G          | 1.90          |
| X          | 2.30          |
| X1         | 6.50          |
| Y          | 2.00          |

## 4