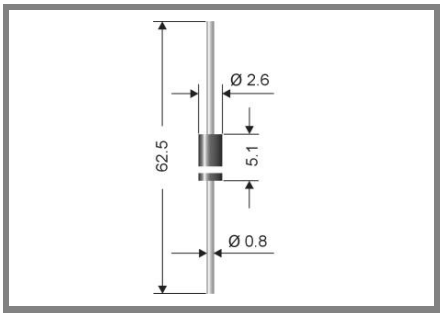
# EM 513, EM 516, EM 518




## Axial lead diode

Standard silicon rectifier diodes

**EM 513, EM 516, EM 518**

**Forward Current: 1 A**

**Reverse Voltage: 1600 to 2000 V**

### Features

- Max. solder temperature: 260°C
- Plastic material has UL classification 94V-0

### Mechanical Data

- Plastic case DO-41 / DO-204AL
- Weight approx.: 0.4 g
- Terminals: plated terminals solderable per MIL-STD-750
- Mounting position: any
- Standard packaging: 5000 pieces per ammo

1) Valid, if leads are kept at ambient temperature at a distance of 10 mm from case
2) $I_F$=1A, $T_j$=25°C
3) $T_A$ = 25 °C

| Type | Repetitive peak reverse voltage $V_{RRM}$ V | Surge peak reverse voltage $V_{RSM}$ V | Max. reverse recovery time $I_F$ = - A, $I_R$ = - A, $I_{RR}$ = - A, $t_{rr}$ ns | Max. forward voltage $V_F$ 2) |
|---|---|---|---|---|
| EM 513 | 1600 | 1600 | - | 1,1 |
| EM 516 | 1800 | 1800 | - | 1,1 |
| EM 518 | 2000 | 2000 | - | 1,1 |

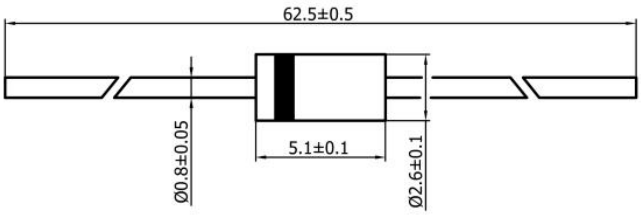
**Absolute Maximum Ratings** Tc = 25 °C, unless otherwise specified

| Symbol | Conditions | Values | Units |
|---|---|---|---|
| $I_{FAV}$ | Max. averaged fwd. current, R-load, $T_A$ = 75 °C 1) | 1 | A |
| $I_{FRM}$ | Repetitive peak forward current f > 15 Hz 1) | 10 | A |
| $I_{FSM}$ | Peak forward surge current 50 Hz half sinus-wave 3) | 50 | A |
| i²t | Rating for fusing, t < 10 ms 3) | 12,5 | A²s |
| $R_{thA}$ | Max. thermal resistance junction to ambient 1) | 45 | K/W |
| $R_{thT}$ | Max. thermal resistance junction to terminals 1) | - | K/W |
| $T_j$ | Operating junction temperature | -50...+175 | °C |
| $T_s$ | Storage temperature | -50...+175 | °C |

**Characteristics** Tc = 25 °C, unless otherwise specified

| Symbol | Conditions | Values | Units |
|---|---|---|---|
| $I_R$ | Maximum leakage current, $T_j$ = 25 °C; $V_R$ = $V_{RRM}$ | <5 | µA |
| | $T_j$ = 100 °C; $V_R$ = $V_{RRM}$ | <50 | µA |
| $C_J$ | Typical junction capacitance (at MHz and applied reverse voltage of V) | - | pF |
| $Q_{rr}$ | Reverse recovery charge ($U_R$ = V; $I_F$ = A; $dI_F/dt$ = A/ms) | - | µC |
| $E_{RSM}$ | Non repetitive peak reverse avalanche energy ($I_R$ = mA; $T_j$ = °C; inductive load switched off) | - | mJ |

Dimensions in mm




case: DO-41 / DO-204AL

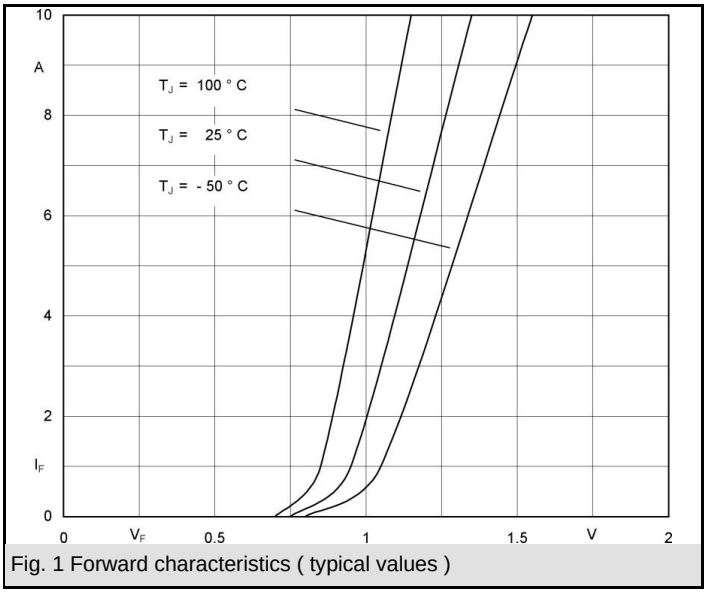



Fig. 1 Forward characteristics ( typical values )

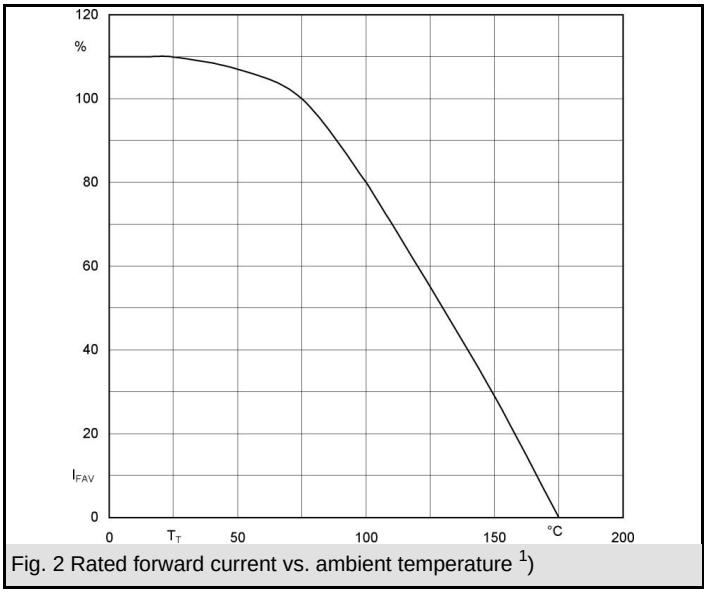



Fig. 2 Rated forward current vs. ambient temperature [1])

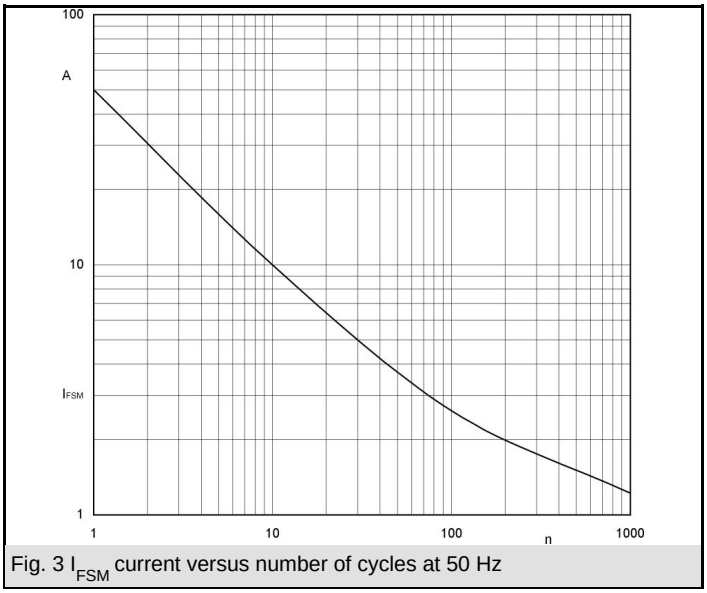



Fig. 3 $I_{FSM}$ current versus number of cycles at 50 Hz