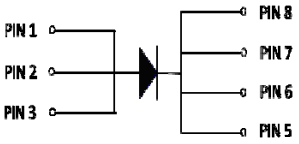
**High Current Density Trench Barrier Schottky Rectifier**

Product Summary:

| | |
|---|---|
| $V_{RRM}$ | 50V |
| $V_F$ @ $I_F$=15A | 0.41V |
| $I_{F(AV)}$ | 15A |





Trench Schottky Technology

Pb-Free Lead Plating & Halogen Free

**ABSOLUTE MAXIMUM RATINGS ($T_A$ = 25 °C Unless Otherwise Noted)**

| PARAMETERS/TEST CONDITIONS | SYMBOL | LIMITS | UNIT |
|---|---|---|---|
| Maximum Repetitive Peak Reverse Voltage | $V_{RRM}$ | 50 | V |
| Maximum Average Forward Rectified Current | $I_{F(AV)}$ | 15 | A |
| Peak Forward Surge Current 8.3mS Single Half Sine-wave Superimposed on Rated Load per Diode | $I_{FSM}$ | 200 | |
| Operating Junction & Storage Temperature Range | $T_j$, $T_{stg}$ | -40 to 150 | °C |

**THERMAL RESISTANCE RATINGS**

| THERMAL RESISTANCE | SYMBOL | TYPICAL | MAXIMUM | UNIT |
|---|---|---|---|---|
| Junction-to-Case | $R_{\theta JC}$ | | 2.5 | °C / W |
| Junction-to-Ambient[3] | $R_{\theta JA}$ | | 50 | |

[1]Pulse width limited by maximum junction temperature.

[2]Duty cycle ≤ 1%

**ELECTRICAL CHARACTERISTICS ($T_A$ = 25 °C, Unless Otherwise Noted)**

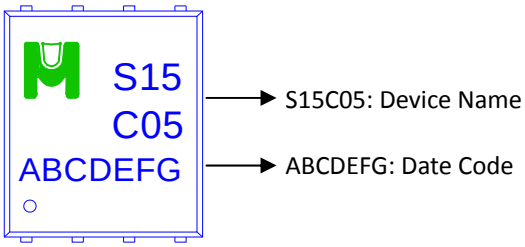
| PARAMETER | SYMBOL | TEST CONDITIONS | | LIMITS | | | UNIT |
|---|---|---|---|---|---|---|---|
| | | | | MIN | TYP | MAX | |
| Breakdown Voltage | $V_{BR}$ | $I_R$=1.0mA | | 50 | | | V |
| Instantaneous Forward Voltage per Diode | $V_F$[1] | $I_F$=5A | $T_A$ = 25 °C | | 0.38 | | V |
| | | $I_F$=7.5A | | | 0.41 | | |
| | | $I_F$=15A | | | 0.47 | 0.54 | |
| | | $I_F$=5A | $T_A$ = 125 °C | | 0.26 | | |
| | | $I_F$=7.5A | | | 0.31 | | |
| | | $I_F$=15A | | | 0.41 | 0.50 | |
| Reverse Current per Diode | $I_R$[2] | $V_R$ = 50V | $T_A$ = 25 °C | | 50 | 300 | uA |
| | | | $T_A$ = 125 °C | | 50 | 100 | mA |

[1]Pulse test : 300 μs Pulse Width, 1% Duty Cycle.

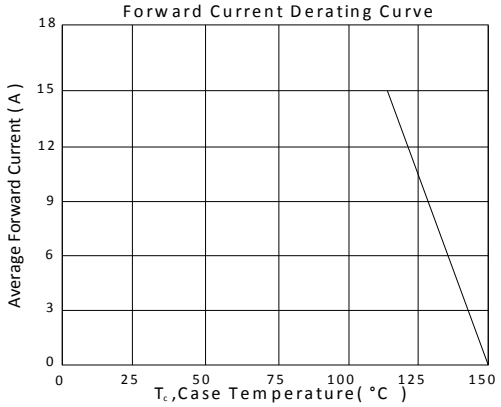
[2]Pulse Width ≤ 40ms.

## Ordering & Marking Information:

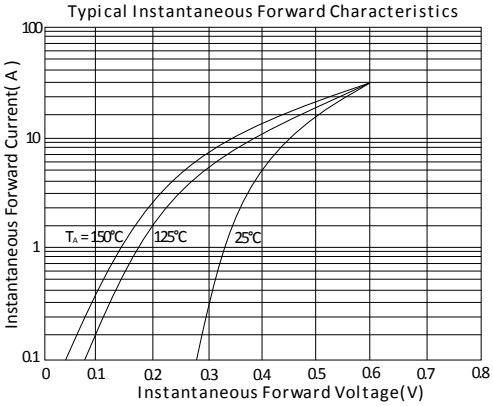
Device Name: EMS15C05H for EDFN 5 x 6



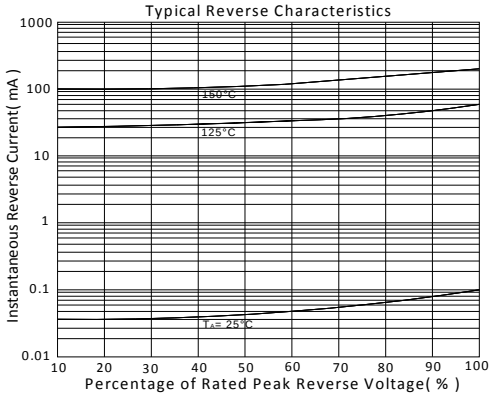
Forward Current Derating Curve



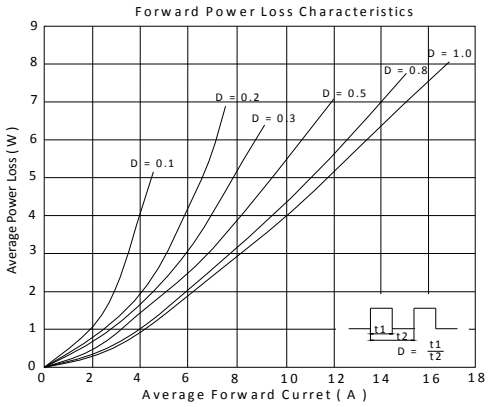

Typical Instantaneous Forward Characteristics



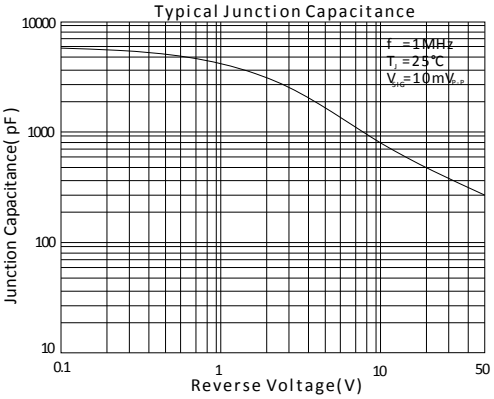

Typical Reverse Characteristics



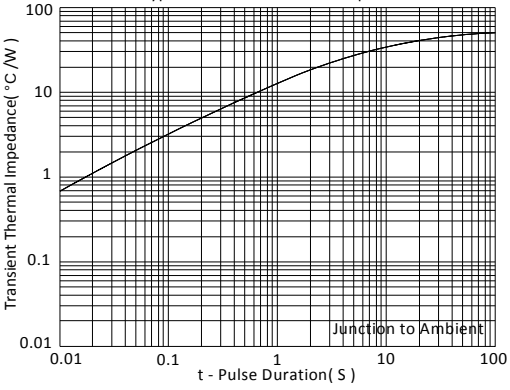

Forward Power Loss Characteristics



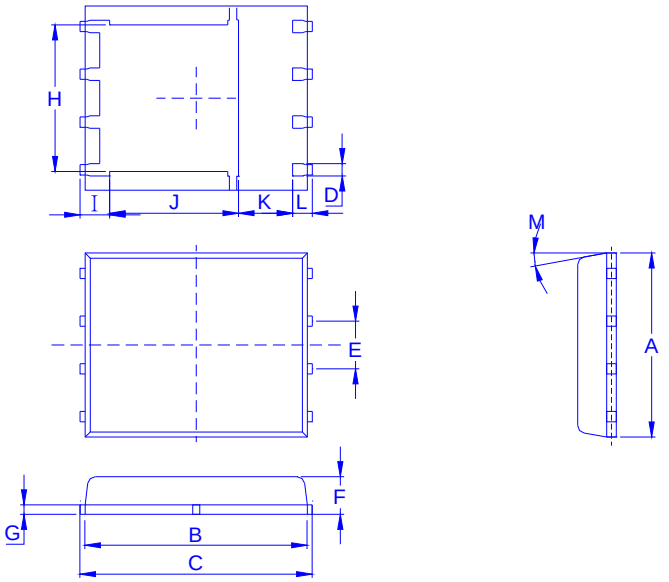

Typical Junction Capacitance




Typical Transient Thermal Impedance



## Outline Drawing




Dimension in mm

| Dimension | A | B | C | D | E | F | G | H | I | J | K | L | M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Min. | 4.80 | 5.50 | 5.90 | 0.3 | | 0.85 | 0.15 | 3.67 | 0.41 | 3.00 | 0.94 | 0.45 | 0° |
| Typ. | | | | | 1.27 | | | | | | | | |
| Max. | 5.30 | 5.90 | 6.15 | 0.51 | | 1.20 | 0.30 | 4.54 | 0.85 | 3.92 | 1.7 | 0.71 | 12° |

## Recommended minimum pads