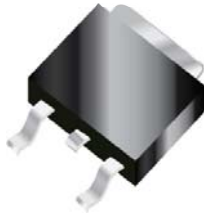




SM3020CD2 thru SM30200CD2



Schottky Barrier Rectifiers



D2-PAK

| Primary Characteristics | | |
|-------------------------|---------------------|----|
| I_F | 30 | A |
| V_{RRM} | 20~200 | V |
| I_{FSM} | 200 | A |
| V_F | 0.60,0.75,0.85,0.95 | V |
| T_J max | 125,150 | °C |

| Features |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Guard Ring for over voltage Protection • High forward surge capability • High frequency operation • Component in accordance to RoHS 2002/95/EC |

| Mechanical Data |
|-----------------------------------------------------------------------------------------|
| • Case:D2PAK |
| • Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0 |
| • Terminals:Matte Tin Finish annealed over copper Leadframe. Solderable per MIL-STD-202 |
| • Weight: 1.541 grams (approximate) |

| Ordering Information | | | |
|----------------------|--------------|---------|------------|
| Part No. | Remark | Package | |
| SM30xxCD2 | General | D2-PAK | 800 / Reel |
| SM30xxCD2 -H | Halogen Free | | |

| Maximum Ratings (TA=25°C unless otherwise noted) | | | | | | | | | | | | |
|------------------------------------------------------------------------------------|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|------|
| PARAMETER | SYMBOL | SM 3020 CD2 | SM 3030 CD2 | SM 3040 CD2 | SM 3045 CD2 | SM 3050 CD2 | SM 3060 CD2 | SM 3080 CD2 | SM 30100 CD2 | SM 30150 CD2 | SM 30200 CD2 | UNIT |
| Maximum repetitive peak reverse voltage | V_{RRM} | 20 | 30 | 40 | 45 | 50 | 60 | 80 | 100 | 150 | 200 | V |
| Maximum RMS voltage | V_{RMS} | 14 | 21 | 28 | 31.5 | 35 | 42 | 56 | 70 | 105 | 140 | V |
| Maximum DC blocking voltage | V_{DC} | 20 | 30 | 40 | 45 | 50 | 60 | 80 | 100 | 150 | 200 | V |
| Maximum average forward rectified current (Total) (Per Leg) | I_F | 30 15 | | | | | | | | | | A |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load | I_{FSM} | 200 | | | | | | | | | | A |
| Maximum Instantaneous IF=15A @ 25°C Forward Voltage IF=15A @ 100°C | V_F | 0.60 | | 0.75 | | 0.85 | | 0.92 | | 0.92 | | V |
| | | 0.55 | | 0.65 | | 0.75 | | 0.82 | | | | |
| Maximum DC Reverse Current @ TA=25°C at Rated DC Blocking Voltage @ TA=100°C | I_R | 1 50 | | | | | | 0.5 20 | | | | mA |
| Typical Junction Capacitance(NOTE1) | C_j | 750 | | | 680 | | | 470 | | 300 | | pF |
| Typical Thermal Resistance | $R_{\theta JC}$ | 3 | | | | | | | | | | °C/W |
| Operating Temperature Range | T_J | -55 to +125 | | | | | | -55 to +150 | | | | °C |
| Storage Temperature Range | T_{STG} | -55 to +150 | | | | | | | | | | °C |
| Marking Code | | SM 3020 CD2 | SM 3030 CD2 | SM 3040 CD2 | SM 3045 CD2 | SM 3050 CD2 | SM 3060 CD2 | SM 3080 CD2 | SM 30100 CD2 | SM 30150 CD2 | SM 30200 CD2 | |

NOTES:

1. Measured at 1.0MHZ and applied reverse voltage of 4.0V DC



Rating and Characteristics Curves

FIG. 1-Typical Forward Current Derating Curve

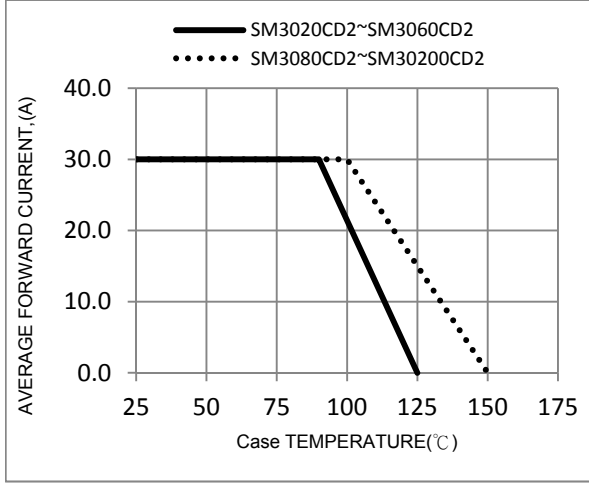


FIG. 2-Typical Forward Characteristics

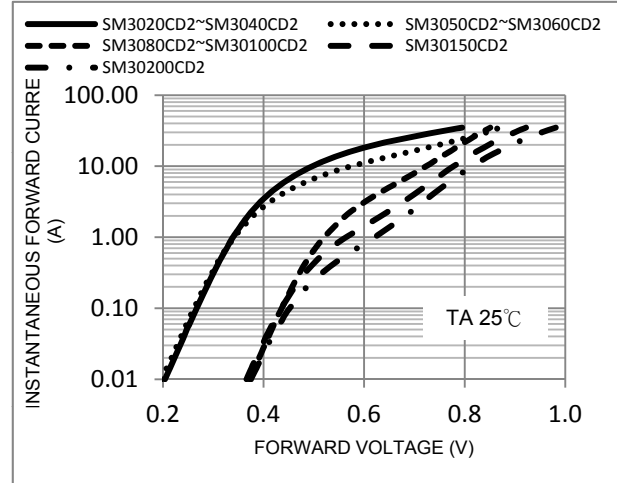


FIG. 3-Maximum Non-Repetitive Forward Surge Current

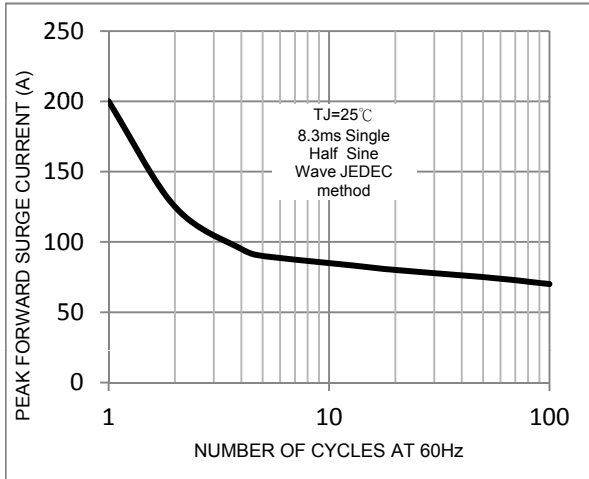


FIG. 4-Typical Reverse Characteristics

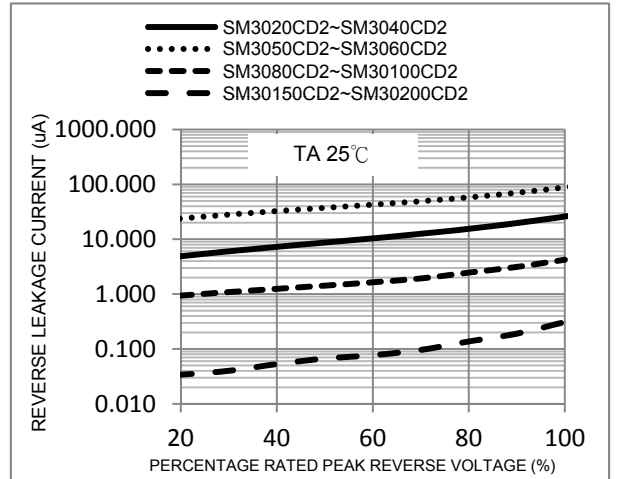
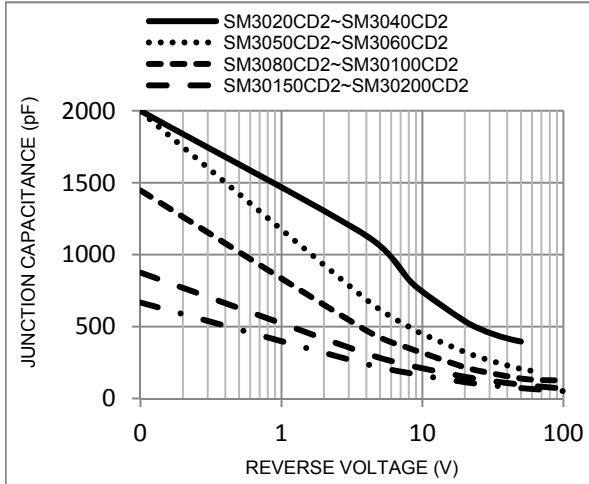


FIG. 5-Typical Junction Capacitance



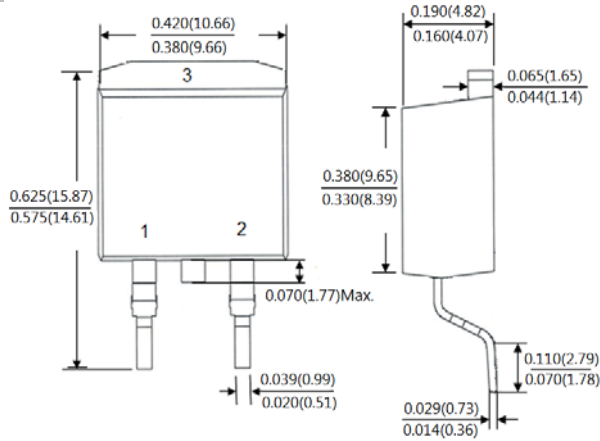


SM3020CD2 thru SM30200CD2

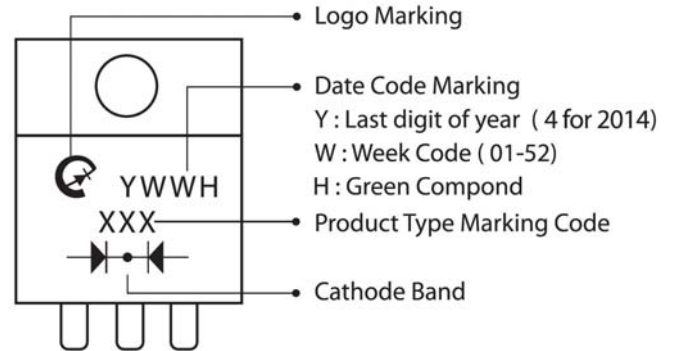


Schottky Barrier Rectifiers

Package Outline Dimensions



Marking Information

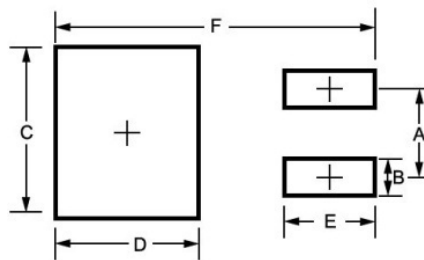


D2-PAK

Dimensions in inches and (millimeters)

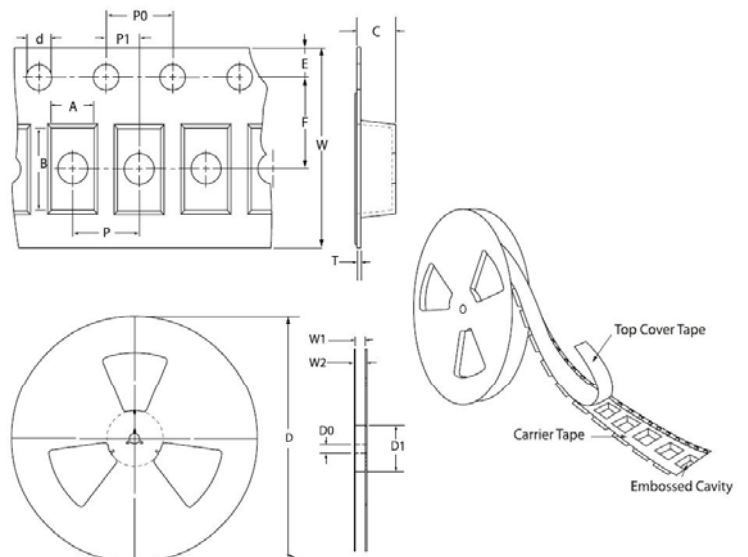
Suggested Pad Layout

| Dimension | Outline | D2-PAK (mm) |
|-----------|---------|-------------|
| A | | 5.08 |
| B | | 1.10 |
| C | | 10.80 |
| D | | 8.30 |
| E | | 3.50 |
| F | | 16.90 |



Tap & Reel Specification

| ITEM | SYMBOL | D2-PAK(mm) (mm) |
|------------------------|--------|--------------------|
| Carrier width | A | 10.7±0.1 |
| Carrier length | B | 16.3±0.1 |
| Carrier depth | C | 5±0.1 |
| Sprocket hole | d | 1.55±0.05 |
| Reel outside diameter | D | 330±2 |
| Feed hole diameter | D0 | 13.5±1 |
| Reel inner diameter | D1 | 100(min) |
| Sprocket hole position | E | 1.75±0.1 |
| Punch hole position | F | 11.5±0.1 |
| Sprocket hole pitch | P | 16±0.1 |
| Sprocket hole pitch | P0 | 4±0.1 |
| Embossment center | P1 | 2±0.1 |
| Overall tape thickness | T | 0.3±0.05 |
| Tape width | W | 24±0.3 |
| Reel width | W2 | - |
| Reel width | W1 | 24.2(Max) |





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