# SS52-C-Q1 THRU SS520-C-Q1

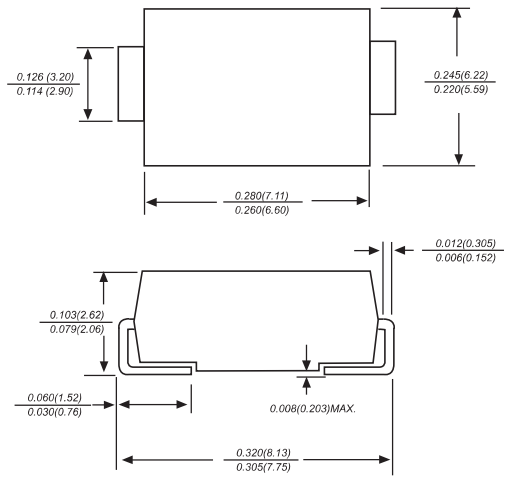
**5.0A Surface Mount Schottky Barrier Rectifiers - 20V-200V**

## Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Metal silicon junction,majority carrier conduction
- Low power loss,high efficiency
- Built-in strain relief,ideal for automated placement
- High forward surge current capability
- High temperature soldering guaranteed: 250℃/10 seconds at terminals
- Compliant to RoHS Directive 2011/65/EU
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101

## Package outline

**SMC/DO-214AB**




*Dimensions in inches and (millimeters)*

## Mechanical data

- **Case**: JEDEC DO-214AB molded plastic body
- **Terminals**: Solder plated, solderable per MIL-STD-750, Method 2026
- **Polarity**: Color band denotes cathode end
- **Mounting Position**: Any

## Maximum ratings and Electrical Characteristics (AT $T_A$=25°C unless otherwise noted)

| PARAMETER | CONDITIONS | | Symbol | MIN. | TYP. | MAX. | UNIT |
|---|---|---|---|---|---|---|---|
| Forward rectified current | See Fig.1 | | $I_O$ | | | 5.0 | A |
| Forward surge current | 8.3ms single half sine-wave (JEDEC methode) | | $I_{FSM}$ | | | 150 | A |
| Reverse current | $T_A$ = 25°C | $V_R$ = 20V - 60V | $I_R$ | | | 0.5 | mA |
| | | $V_R$ = 80V - 200V | | | | 0.1 | |
| Reverse current | $T_A$ = 100°C | $V_R$ = 20V - 60V | $I_R$ | | | 10 | mA |
| | | $V_R$ = 80V - 200V | | | | 5 | |
| Thermal resistance | Junction to ambient NOTE 1 | | $R_{\theta JA}$ | | 50 | | °C/W |
| Diode junction capacitance | f=1MHz and applied 4V DC reverse voltage | | $C_J$ | | 200 | | pF |
| Storage temperature | | | $T_{STG}$ | -65 | | +150 | °C |

**Note:** 1.P.C.B. mounted with 0.2x0.2″(5.0x5.0mm) copper pad areas

| SYMBOLS | $V_{RRM}$ *1 (V) | $V_{RMS}$ *2 (V) | $V_R$ *3 (V) | $V_F$ *4 (V) | Operating temperature $T_J$, (°C) |
|---|---|---|---|---|---|
| SS52-C-Q1 | 20 | 14 | 20 | 0.55 | -55 to +150 |
| SS53-C-Q1 | 30 | 21 | 30 | | |
| SS54-C-Q1 | 40 | 28 | 40 | | |
| SS55-C-Q1 | 50 | 35 | 50 | 0.70 | |
| SS56-C-Q1 | 60 | 42 | 60 | | |
| SS58-C-Q1 | 80 | 56 | 80 | 0.85 | |
| SS510-C-Q1 | 100 | 70 | 100 | | |
| SS515-C-Q1 | 150 | 105 | 150 | 0.92 | |
| SS520-C-Q1 | 200 | 140 | 200 | | |

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@$I_F$=5.0A

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## Rating and characteristic curves

FIG. 1- FORWARD CURRENT DERATING CURVE

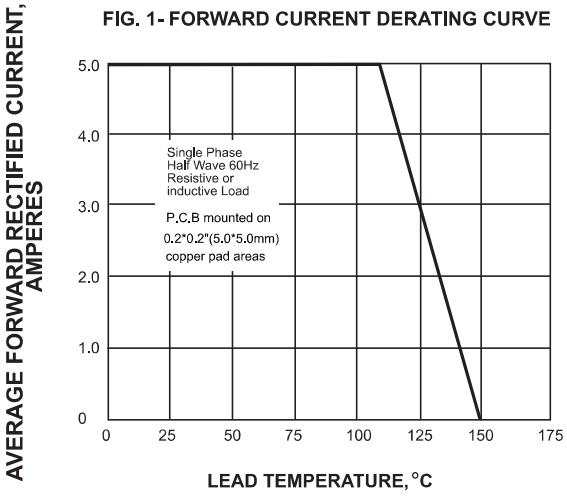



FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

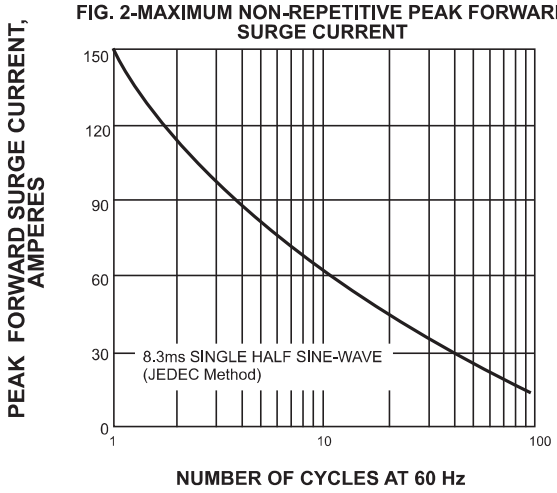



FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

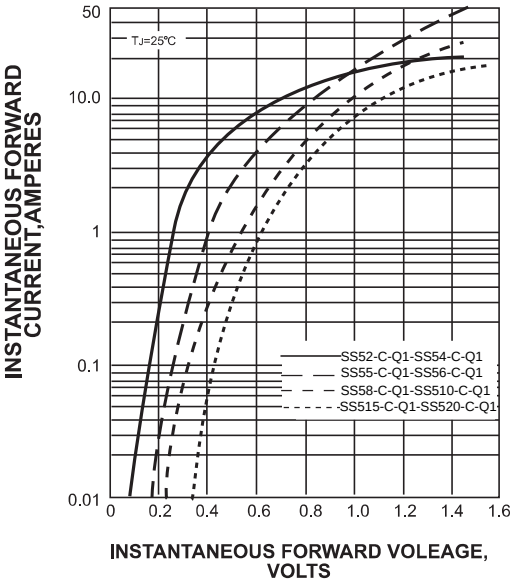



FIG. 4-TYPICAL REVERSE CHARACTERISTICS

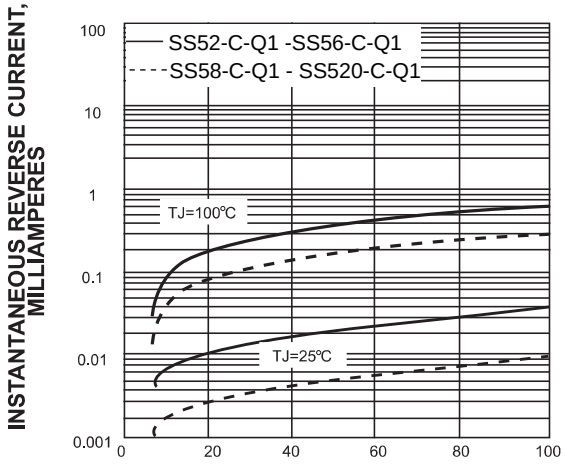



FIG. 5-TYPICAL JUNCTION CAPACITANCE

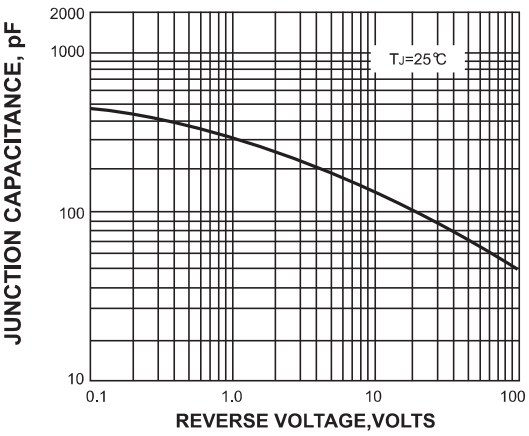
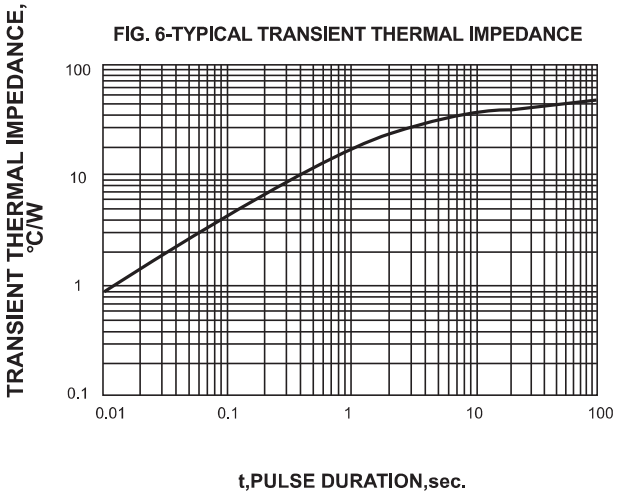



FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



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# SS52-C-Q1 THRU SS520-C-Q1

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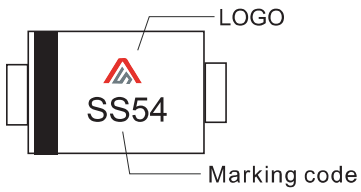
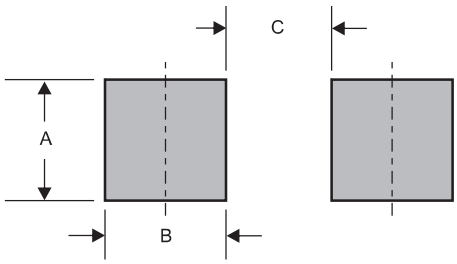
## Pinning information

| Pin | Simplified outline | Symbol |
|---|---|---|
| Pin1 cathode<br>Pin2 anode | | |

## Marking

| Type number | Marking code | Example |
|---|---|---|
| SS52-C-Q1 | SS52 |  |
| SS53-C-Q1 | SS53 | |
| SS54-C-Q1 | SS54 | |
| SS55-C-Q1 | SS55 | |
| SS56-C-Q1 | SS56 | |
| SS58-C-Q1 | SS58 | |
| SS510-C-Q1 | SS510 | |
| SS515-C-Q1 | SS515 | |
| SS520-C-Q1 | SS520 | |

## Suggested solder pad layout




Dimensions in inches and (millimeters)

| PACKAGE | A | B | C |
|---|---|---|---|
| SMC | 0.132 (3.30) | 0.100 (2.50) | 0.176(4.40) |