

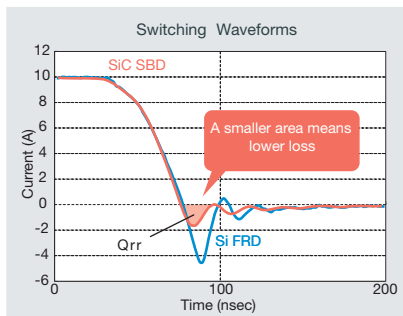


# SiC Schottky Barrier Diodes

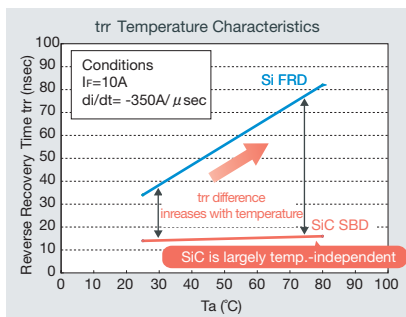
SiC Schottky barrier diodes have are now available for high voltage resistance, large current circuits. High-speed switching characteristics minimize switching loss, improving device operating frequency.


## ■ Dramatically lower switching loss

Ultra-short reverse recovery time (impossible to achieve with silicon) enables high-speed switching. This minimizes the reverse recovery charge (Q<sub>rr</sub>), reducing switching loss significantly, contributing to end-product miniaturization.



In addition, SiC devices maintain a constant trr regardless of temperature, unlike conventional silicon fast recovery diodes where the trr increases with temperature. This enables high-temperature driving without increasing switching loss.



 SiC wafer supplier SiCrystal has joined the ROHM Group. This makes it possible to perform manufacturing completely in-house, from ingot formation to power device fabrication, resulting in cutting-edge products with superior reliability and quality.

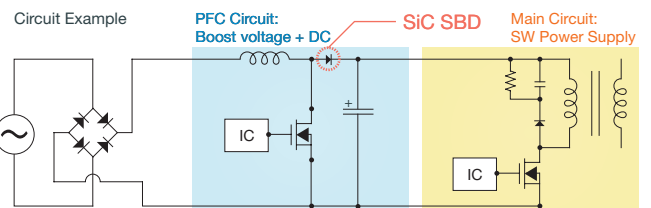
## Specifications

| Part No. | Package | V <sub>RM</sub> (V) | V <sub>R</sub> (V) | I <sub>o</sub> (A) | I <sub>FSM</sub> (A) | T <sub>J</sub> (°C) | T <sub>stg</sub> (°C) | V <sub>F</sub> (V) typ. |                    | I <sub>R</sub> (μA) typ. |                    | trr (nsec) typ. | Conditions  |
|----------|---------|---------------------|--------------------|--------------------|----------------------|---------------------|-----------------------|-------------------------|--------------------|--------------------------|--------------------|-----------------|---|
|          |         |                     |                    |                    |                      |                     |                       | I <sub>F</sub> (A)      | V <sub>R</sub> (V) | I <sub>F</sub> (A)       | V <sub>R</sub> (V) |                 |   |
| SCS110AX | 3-pin   | 600                 | 600                | 10                 | 40                   | 150                 | -55 to +150           | 1.5                     | 10                 | 2                        | 600                | 15              | I <sub>F</sub> =10A<br>V <sub>R</sub> =400V<br>di/dt=-350A/μsec |
| SCS110AG | 2-pin   |                     |                    |                    |                      |                     |                       |                         |                    |                          |                    |                 |   |



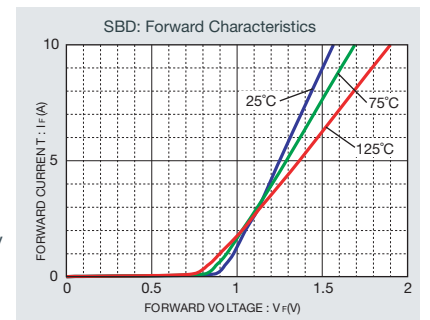
## Applications

- Switching circuits
- Motor drive circuits
- PFC (Power Factor Correction) circuits and others



## ■ Stable temperature characteristics

SiC diodes exhibit stabler temperature characteristics (i.e. forward voltage) compared with silicon-based devices, simplifying parallel connection(s) and preventing thermal runaway - unlike Si FRDs.



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