

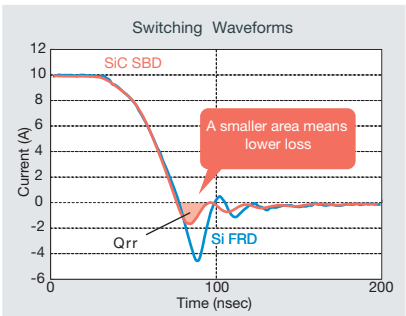


SiC Schottky Barrier Diodes

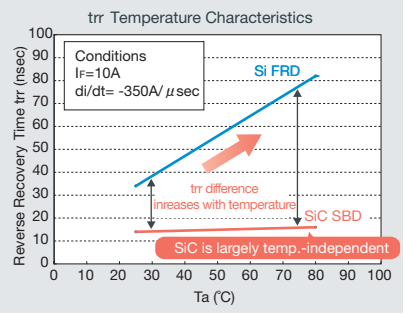
SiC Schottky barrier diodes have are now available for high voltage resistance, large current circuits. High-speed switching characteristics minimize switching loss, improving device operating frequency.


■ 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_{rr}), 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.

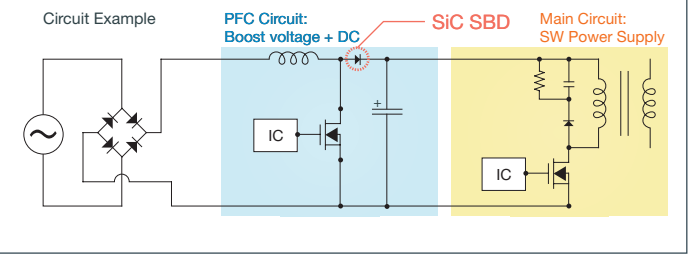
Specifications

Part No.	Package	V _{RM} (V)	V _R (V)	I _o (A)	I _{FSM} (A)	T _J (°C)	T _{stg} (°C)	V _F (V) typ.		I _R (μA) typ.		trr (nsec) typ.	Conditions
								I _F (A)	V _R (V)	I _F (A)	V _R (V)		
SCS110AX	3-pin	600	600	10	40	150	-55 to +150	1.5	10	2	600	15	I _F =10A V _R =400V di/dt=-350A/μsec
SCS110AG	2-pin												



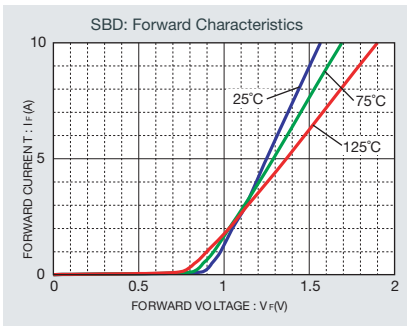
Applications

- 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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