
January 24, 2012

Product Specifications of the SiC Compound Power Devices

[Common specifications]

- Rated channel temperature (Tch): +150°C
Package: 5-pin TO-3PFM

[Specifications of the RJQ6020DPM device (for critical-conduction mode PFC applications)]

- Component elements (high-side/low-side): SiC-SBD/high-performance SJ-MOSFET
- Reverse voltage (VR): 600 V SiC-SBD rated current: 20 A
- SiC-SBD forward voltage (VT): 1.5 V (IF = 10 A)
- SJ-MOSFET rated current: 20 A
- SJ-MOSFET on-resistance (Ron) 0.1 Ω (VG = 10 V, ID = 10 A)
- SJ-MOSFET reverse recovery time (trr): 120 ns (ID = 10 A)

[Specifications of the RJQ6021DPM device (for continuous-conduction mode PFC applications)]

- Component elements (high-side/low-side): SiC-SBD/ultra-thin-wafer IGBT
- Reverse voltage (VR): 600 V
- SiC-SBD rated current: 20 A
- SiC-SBD forward voltage (VT): 1.5 V (IF = 10 A)
- IGBT rated current: 20 A
- IGBT on-voltage (Vsat): 1.5 V (VG = 15 V, IC = 20 A)
- IGBT off-time (tf): 60 ns (VCE = 400 V, IC = 20 A)

[Specifications of the RJQ6022DPM device (for inverter half-bridge circuits)]

- Component elements (high-side / low-side): Ultra-thin-wafer IGBT/SiC-SBD /ultra-thin-wafer IGBT/SiC-SBD
- Reverse voltage (VR): 600 V
- SiC-SBD rated current: 20 A
- SiC-SBD forward voltage (VT): 1.5 V (IF = 10 A)

- IGBT rated current: 20 A
- IGBT on-voltage (V_{sat}): 1.4 V ($V_G = 15$ V, $I_C = 20$ A)
- IGBT off-time (t_f): 70 ns ($V_{CE} = 400$ V, $I_C = 20$ A)
- Short circuit time (t_{sc}): 6.0 μ sec. standard ($V_{cc} = 360$ V, $V_{GE} = 15$ V)