



GSF31012

FAST RECOVERY STUD DIODE

UL-certified insulating sleeve

| | |
|------------------------|---------------|
| VOLTAGE UP TO | 1200 V |
| AVERAGE CURRENT | 125 A |
| SURGE CURRENT | 2,8 kA |

BLOCKING CHARACTERISTICS

| Characteristic | | Conditions | Value |
|------------------|---------------------------------------|--|--------|
| V _{RRM} | Repetitive peak reverse voltage | | 1200 V |
| V _{RSM} | Non-repetitive peak reverse voltage | | 1300 V |
| I _{RRM} | Repetitive peak reverse current, max. | V _{RRM} , single phase, half wave, T _j = T _{jmax} | 35 mA |

FORWARD CHARACTERISTICS

| | | | |
|---------------------|--|--|----------------------|
| I _{F(AV)} | Average forward current | Sine wave, 180° conduction, T _h = 100 °C | 125 A |
| I _{F(RMS)} | R.M.S. forward current | Sine wave, 180° conduction, T _h = 100 °C | 196 A |
| I _{FSM} | Surge forward current | Non rep. half sine wave, 50 Hz, V _R = 0 V, T _j = T _{jmax} | 2,8 kA |
| I ² t | I ² t for fusing coordination | | 39 kA ² s |
| V _{F(TO)} | Threshold voltage | T _j = T _{jmax} | 1,2 V |
| r _F | Forward slope resistance | T _j = T _{jmax} | 2,3 mΩ |
| V _{FM} | Peak forward voltage, max | Forward current I _F = 450 A, T _j = 25°C | 2,5 V |

SWITCHING CHARACTERISTICS

| | | | |
|-----------------|----------------------------|---|------|
| t _{rr} | Reverse recovery time, typ | T _j = 125 °C, I _F = 350 A, di/dt = -25 A/μs V _R = 30 V | 1 μs |
|-----------------|----------------------------|---|------|

THERMAL AND MECHANICAL CHARACTERISTICS

| | | | |
|----------------------|---------------------------------------|--------------------|--------------|
| R _{th(j-c)} | Thermal resistance (junction to case) | Double side cooled | 0,25 °C/W |
| R _{th(c-h)} | Thermal resistance (case to heatsink) | Double side cooled | 0,08 °C/W |
| T _{jmax} | Max operating junction temperature | | 150 °C |
| T _{stg} | Storage temperature | | -40 / 150 °C |
| M | Mounting torque | | 10 N·m |
| | Mass | | 100 g |

Ordering information

| | | | |
|-----------------|----------------|---|--|
| cathode on stud | anode on stud | | |
| GSF31012-vvtt | GSFR31012-vvtt | v _v = V _{RRM} / 100 | t _t = t _{rr} {μs} * 10 |
| example | GSF31012-1210 | 1200 V | 1 μs @ 25°C |