



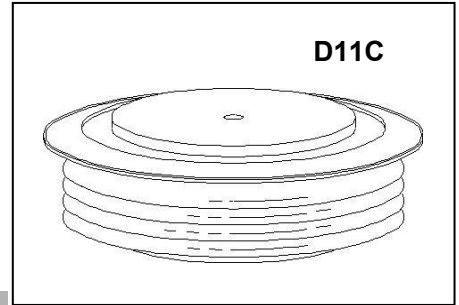
ZK2000- FAST RECOVERY DIODE

2400-3000V_{RRM}

FAST RECOVERY RECTIFIER DIODE

Features:

- . All diffused structure
- . High surge rating
- . Blocking capability up to 3000 volts
- . Soft recovery
- . Ceramic housing hermetic package
- . Pressure assembled device



ELECTRICAL CHARACTERISTICS AND RATINGS

Reverse Blocking

| Device Type | V _{RRM} (1) | V _{RSM} (1) |
|-------------|----------------------|----------------------|
| ZK2000-24 | 2400 | 2500 |
| ZK2000-26 | 2600 | 2700 |
| ZK2000-28 | 2800 | 2900 |
| ZK2000-30 | 3000 | 3100 |

V_{RRM} = Repetitive peak reverse voltage

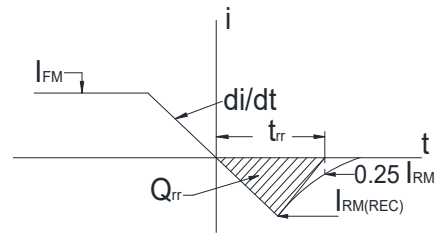
V_{RSM} = Non repetitive peak reverse voltage (2)

| Repetitive peak reverse leakage current | I _{RRM} | 15 mA 60 mA (3) |
|---|------------------|--------------------|
|---|------------------|--------------------|

Notes:

All ratings are specified for T_j=25 °C, unless otherwise stated

- (1) All voltage ratings are specified for an applied 50Hz/60Hz sinusoidal waveform over the temperature range -40°C to +125 °C.
- (2) 10 msec. max. pulse width
- (3) Maximum value for T_j = 125 °C.
- (4) See parameter definition below :



reverse recovery characteristic

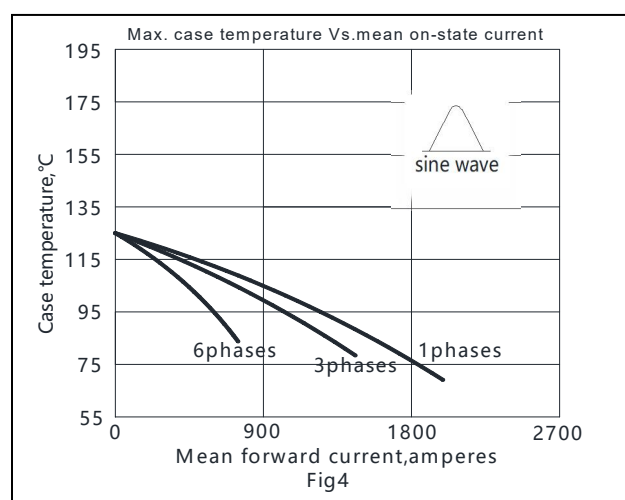
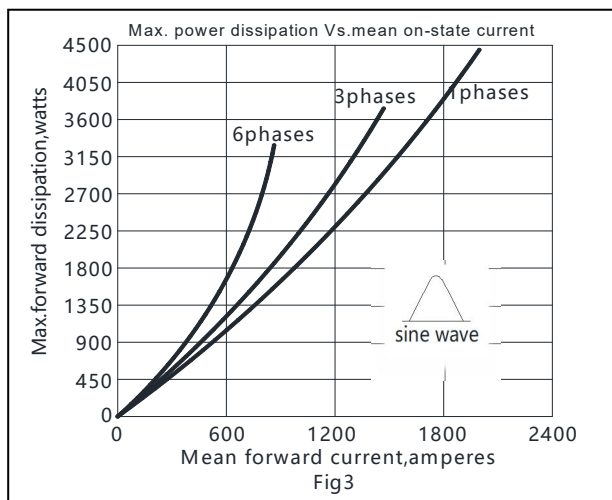
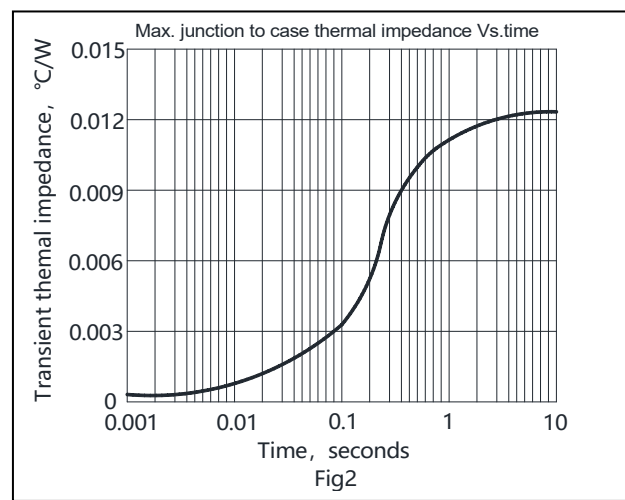
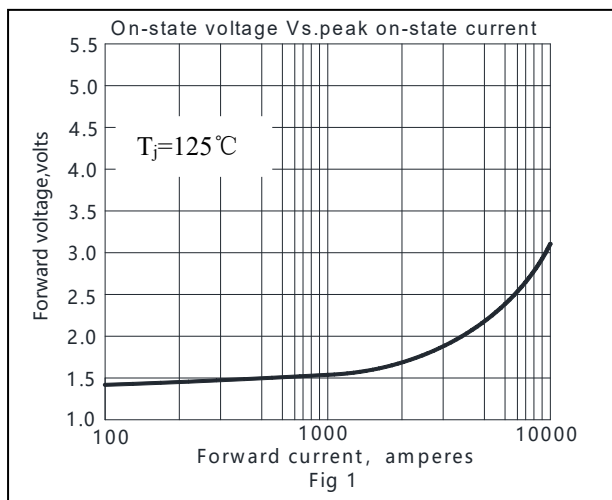
Conducting - on state

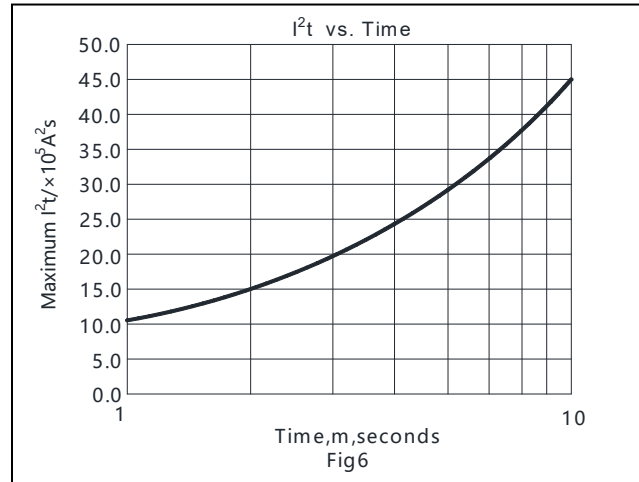
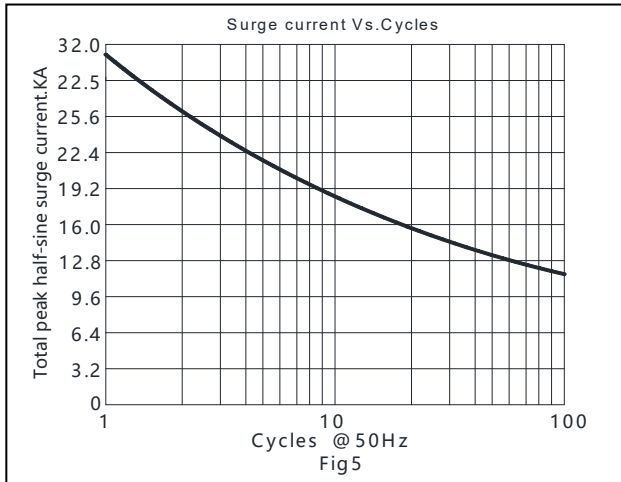
| Parameter | Symbol | Min. | Max. | Typ. | Units | Conditions |
|---|----------------------|------|------------------------|------|------------------|---|
| Average forward current | I _{F(AV)} | | 2000 | | A | Sinewave 180°, T _c =70°C |
| RMS forward current | I _{FRMS} | | 3140 | | A | |
| Peak one cycle surge (non repetitive) current | I _{FSM} | | 30000 | | A | 10 msec (50Hz), sinusoidal wave-shape, 180° conduction, T _j =125°C |
| I square t | I ² t | | 45.0 × 10 ⁵ | | A ² s | 8.3 msec and 10.0 msec |
| Peak forward voltage | V _{FM} | | 2.20 | | V | I _{FM} = 3000A; Duty cycle ≤ 0.01% |
| Threshold voltage | V _{FO} | | 1.35 | | V | T _j =125°C, I=0.5 π I _{F(AV)} to 1.5 π I _{F(AV)} |
| Slope resistance | r _F | | 0.18 | | mΩ | T _j =125°C, I=0.5 π I _{F(AV)} to 1.5 π I _{F(AV)} |
| Reverse Recovery Current (4) | I _{RM(REC)} | | * | | A | I _{FM} = 1000 A; dI _F /dt = 10 A/μs; T _j max |
| Reverse Recovery Charge (4) | Q _{rr} | | * | | μC | I _{FM} = 1000 A; dI _F /dt = 10 A/μs; T _j max |
| Reverse Recovery Time (4) | t _{rr} | | 8 | | μs | I _{FM} = 1000 A; dI _F /dt = 10 A/μs; T _j max |

| Parameter | Symbol | Min. | Max. | Typ. | Units | Conditions |
|---------------------------------------|-------------------|------|----------------|------|-------|--|
| Operating temperature | T_j | -40 | +125 | | °C | |
| Storage temperature | T_{stg} | -40 | +140 | | °C | |
| Thermal resistance - junction to case | $R_{\Theta(j-c)}$ | | 0.0125 | | °C/W | Double sided cooled |
| Thermal resistance - junction to case | $R_{\Theta(j-c)}$ | | 0.0250 | | °C/W | Single sided cooled |
| Thermal resistance - case to heatsink | $R_{\Theta(c-s)}$ | | 0.004 0.008 | | °C/W | Double sided cooled * Single sided cooled * |
| Mounting force | F | | | 33 | kN | |
| Weight | m | | | 0.85 | kg. | |

* Mounting surfaces smooth, flat and greaseless

Graph





CASE OUTLINE AND DIMENSIONS

