



High-end Power Semiconductor Manufacturer

ZK800A 1100-2000V Fast Recovery Diode

- Low switching losses
- Low reverse recovery charge High
- power cycling capability



Average forward current				I _{FAV}		850 A	
Repetitive peak reverse voltage				V _{RRM}		1100 – 2000 V	
Reverse recovery time				t _{rr}		3.00 μs	
V _{RRM} , V	1100	1200	1400		1600	1800	2000
Voltage code	11	12	14		16	18	20
T _j , °C	– 60 – 150						

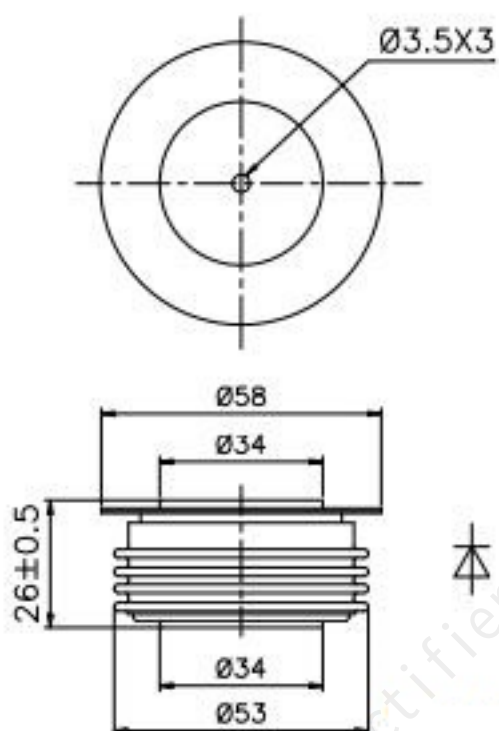
MAXIMUM ALLOWABLE RATINGS

Symbols and parameters		Units	Values	Test conditions	
ON-STATE					
I_{FAV}	Average forward current	A	850	$T_c=85\text{ }^{\circ}\text{C}$; Double side cooled; 180° half-sine wave; 50 Hz	
I_{FSM}	Surge forward current	kA	12.0	$T_j=T_{j\max}$	180° half-sine wave; $t_p=10\text{ ms}$; $V_R=0.6V_{RRM}$
I^2t	Safety factor	$A^2s\cdot10^3$	720	$T_j=T_{j\max}$	180° half-sine wave; $t_p=10\text{ ms}$; $V_R=0.6V_{RRM}$
BLOCKING					
V_{RRM}	Repetitive peak reverse voltages	V	1100–2000	$t_p=10\text{ ms}$	
V_R	Reverse continuous voltages	V	$0.6\cdot V_{RRM}$	$T_j=T_{j\max};$	
THERMAL					
T_{stg}	Storage temperature	$^{\circ}\text{C}$	–40–160		
T_j	Operating junction temperature	$^{\circ}\text{C}$	–60 –150		
MECHANICAL					
F	Mounting force	kN	10 – 20		

CHARACTERISTICS

Symbols and parameters		Units	Values	Conditions	
ON-STATE					
V_{FM}	Peak forward voltage, max	V	2.80	$T_j=25\text{ }^{\circ}\text{C}$; $I_{TM}=2400\text{A}$, $F=15.0\text{kN}$	
$V_{F(TO)}$	Forward threshold voltage, max	V	1.51	$T_j=T_{j\text{ max}}$;	
r_T	Forward slope resistance, max	mΩ	0.37		
BLOCKING					
I_{RRM}	Repetitive peak reverse current, max	mA	50	$T_j=T_{j\text{ max}}$; $V_R=V_{RRM}$	
SWITCHING					
Q_{rr}	Total recovered charge, max	μC	130	$I_{TM}=1000\text{A}$, $t_p=2000\mu\text{s}$, $-di/dt=60\text{A}/\mu\text{s}$, $V_R=50\text{V}$	
t_{rr}	Reverse recovery time ¹⁾ , max	μS	3.00		
THERMAL					
R_{thjc}	Thermal resistance, junction to case, max	°C/W	0.0350	Clamping force 15.0kN	Double side cooled
R_{thck}	Thermal resistance, case to heatsink, max	°C/W	0.0080	Clamping force 15.0kN	Double side cooled
MECHANICAL					
w	Weight, max	g	250		

OVERALL DIMENSIONS



ZT40

All dimensions in millimeters