

FAST Rectifier-----M2639ZC450

GENERAL PURPOSE HIGH POWER FAST RECTIFIER

Features:

- . All Diffused Structure
- . High Surge rating
- . Soft Reverse Recovery
- . Rugged Ceramic Hermetic Package
- . Pressure Assembled Device

Typical Applications:

- . Rectifier for Drives Applications
- . Medium voltage converters
- . Pulsed power applications
- . Crowbar Applications

ELECTRICAL CHARACTERISTICS AND RATINGS

Reverse Blocking

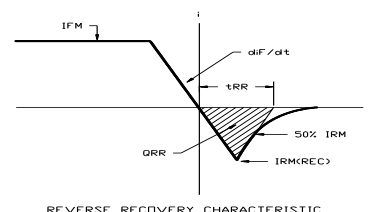
V_{RRM} (1)	V_{RSM} (1)
4500	4500

V_{RRM} = Repetitive peak reverse voltage

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

Repetitive peak reverse leakage	I_{RRM}	20 mA 150 mA
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Notes:
All ratings are specified for $T_j=25^\circ\text{C}$ unless otherwise stated.



REVERSE RECOVERY CHARACTERISTIC

Conducting - on state

Parameter	Symbol	Min	Max.	Typ	Units	Conditions
Max. Average value of on-state current	$I_{F(AV)M}$		2639		A	Sinewave, 180° conduction, $T_c=55^\circ\text{C}$
RMS value of on-state current	I_{FRMS}		4922		A	Nominal value
Peak one cycle surge (non repetitive) current	I_{FSM}		27.5		kA	$T_j=150^\circ\text{C}$, $V_R=0.8V_{RRM}$, $t_p=10\text{ms}$
I square t	I^2t		3.79×10^3		kA^2s	10 msec
Peak on-state voltage	V_{FM}		2.25		V	$I_{FM}=3000\text{A}$; $T_j=150^\circ\text{C}$
Threshold voltage	V_{FO}		1.38			$T_j=150^\circ\text{C}$
Forward slope resistance	r_F		0.29		$\text{m}\Omega$	$T_j=150^\circ\text{C}$
Reverse Recovery Current (4)	$I_{RM(REC)}$		- 280		A	$I_{FM}=1000\text{A}$; $dI_F/dt=60\text{A}/\mu\text{s}$, $T_j=150^\circ\text{C}$
Reverse Recovery Charge (4)	Q_{rr}		- 2300		μC	
Reverse Recovery Time (4)	t_{RR}		- 8.5		μs	

* For guaranteed maximum values, contact factory

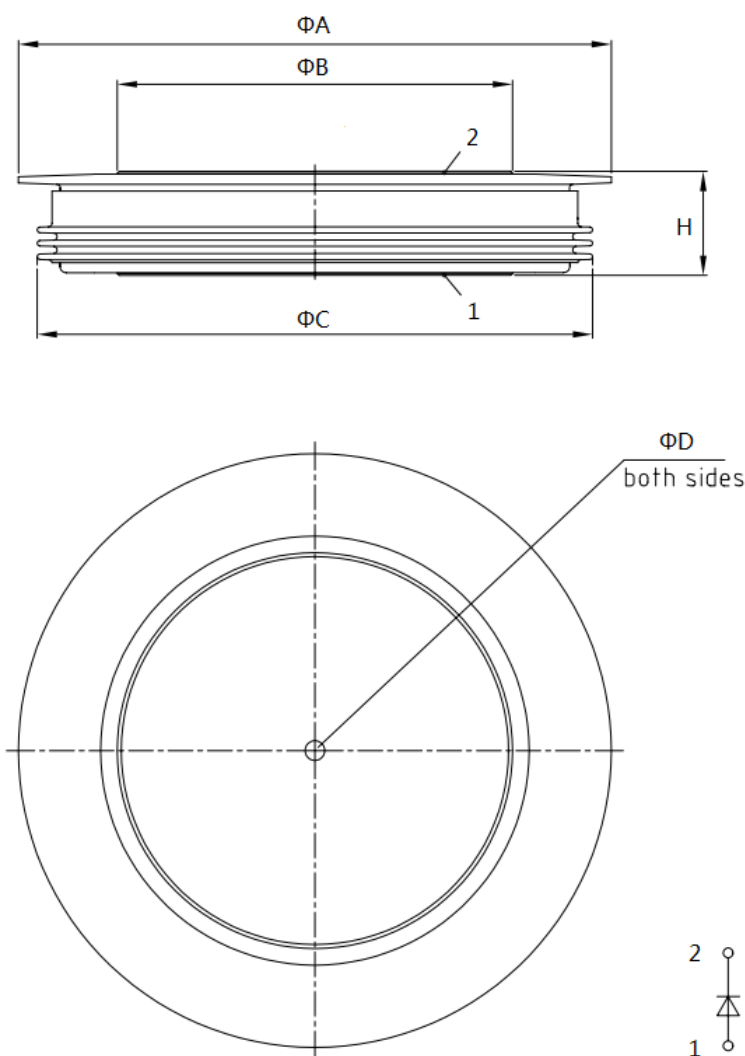
THERMAL AND MECHANICAL CHARACTERISTICS

Parameter	Symbol	Min.	Max.	Typ.	Units	Conditions
Operating temperature	T_j	-40	+150		$^\circ\text{C}$	
Storage temperature	T_{stg}	-40	+150		$^\circ\text{C}$	

Thermal resistance - junction to case	$R_{\theta(j-c)}$		0.011		κ/W	Double sided cooled Single sided cooled
Thermal resistance - case to sink	$R_{\theta(c-s)}$		0.022		κ/W	Double sided cooled Single sided cooled
Mounting force	P	37	47	-	kN	
Weight	W			1700	g	About

* Mounting surfaces smooth, flat and greased

CASE OUTLINE AND DIMENSIONS



Sym	A	B	C	D	H
mm	109	73	98	3.5×3	36±1