

XI'AN IR-PERI



PRELIMINARY

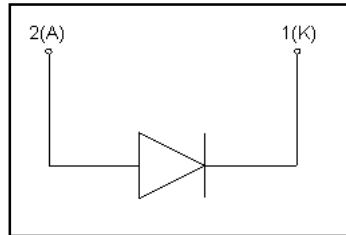
MZD800DD120S

Fast Recovery Epitaxial Diode INT -A -PAK

Soft-Fast™ Speed FRED

Features

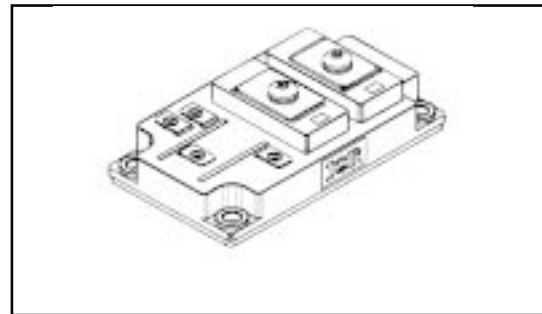
- International standard package
With DBC ceramic base plate
- Planar passivated chips
- Short recovery time
- Low switching losses
- Ultra-soft recovery behaviour
- Industry standard package
- UL recognition pending



VRRM = 1200V
IFAVM = 800 A
trr = 450ns

Benefits

- Antiparallel diode for high frequency switching devices
- Increased operating efficiency
- Direct mounting to heatsink
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders
- Low voltage peaks for reduced protection circuits



Absolute Maximum Ratings

Symbol	Test Conditions	Max.	Units
V _{RSM} & V _{RRM}		1200	V
I _{FRMS}	T _C =75 °C	1120	A
I _{FAVM}	T _C =75 °C; rectangular, d=0.5	800	A
I _{FRM}	t _p <10µs; rep. rating, pulse width limited by T _{VJM}	4400	A
I _{FSM}	T _{VJ} =45 °C; t=10ms (50 Hz),sine	8000	A
	t=8.3ms (60 Hz),sine	9320	A
	T _{VJ} =150 °C; t=10ms (50 Hz),sine	7600	A
	t=8.3ms (60 Hz),sine	8400	A
I ² t	T _{VJ} =45 °C; t=10ms (50 Hz),sine	20000	A ² s
	t=8.3ms (60 Hz),sine	206800	A ² s
	T _{VJ} =150 °C; t=10ms (50 Hz),sine	160000	A ² s
	t=8.3ms (60 Hz),sine	167400	A ² s
V _{ISOL}	RMS Isolation Voltage, Any Terminal To Case, t=1 min	2500	V
P _D	T _C =25 °C	3216	W8
T _J	Operating Junction Temperature Range	-40 to +150	°C
T _{STG}	Storage Temperature Range	-40 to +125	

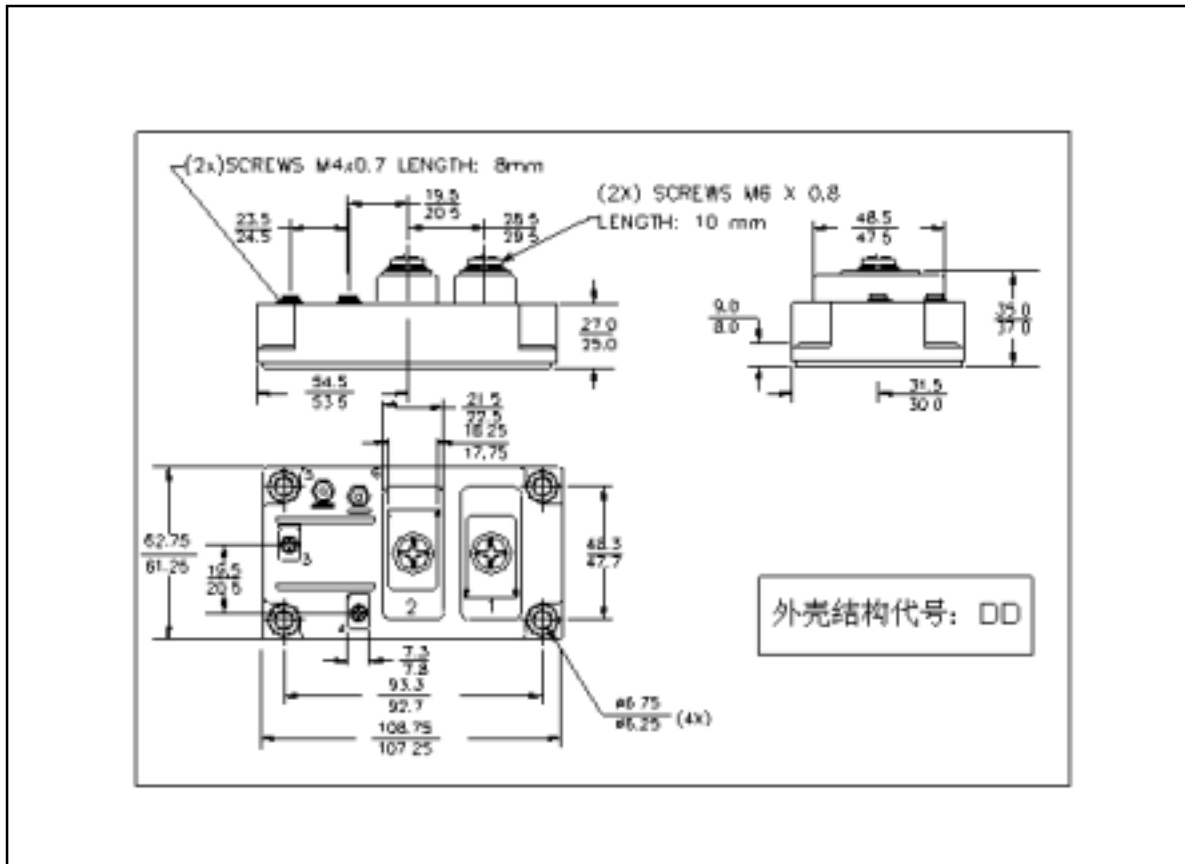
Thermal / Mechanical Characteristics

	Parameter	Typ.	Max.	Units
R _{θJS}	Thermal Resistance, Junction-to- Sink DC	-	0.039	
R _{θJC}	Thermal Resistance, Junction-to- Case DC	-	0.09	°C/W
R _{θCS}	Thermal Resistance, Case-to- Sink- Module	0.035	-	
	Mouting Torque, Case-to-Heatsink	-	4.0	N.m
	Mouting Torque, Case-to-Terminal 1,2 & 3	-	3.0	
	Weight of Module	400	-	g

Electrical Characteristics (unless otherwise specified)

	Parameter	Min.	Typ.	Max.	Units	Conditions
V _{RRM}	Reverse Breakdown Voltage	1200	-	-	V	I _R =24mA
I _R	Diode Leaking Current	-	-	24	mA	T _{VJ} =25°C V _R =V _{RRM}
		-	-	6	mA	T _{VJ} =25°C V _R =0.8V _{RRM}
		-	-	130	mA	T _{VJ} =125°C V _R =0.8V _{RRM}
V _F	Diode Forward Voltage	-	-	1.60	V	I _F =300A; T _{VJ} =125°C
		-	-	1.87	V	T _{VJ} = 25°C
		-	-	1.90	V	I _F =400A; T _{VJ} =125°C
		-	-	2.24	V	T _{VJ} = 25°C
V _{TO}	For power-loss calculations only	-	-	1.18	V	
r _T		-	-	1.15	mΩ	
trr@T _{VJ} =100°C	Diode Reverse Recovery Time	-	450	500	ns	I _F =550A
I _{RM} @T _{VJ} = 25°C	Diode Peak Reverse Current	-	-	220	A	V _R =600V
I _{RM} @T _{VJ} =100°C	Diode Peak Reverse Current	-	-	330	A	-di/dt=800A/μs

Case Outline



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