

XI'AN IR-PERI



PRELIMINARY

MZC150TS120S

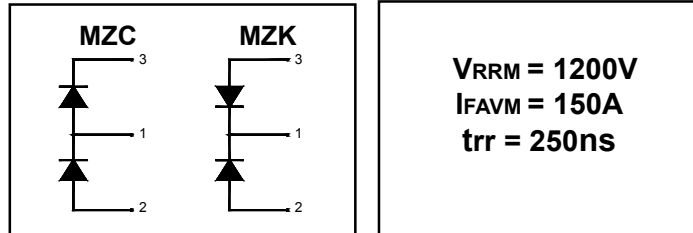
MZK150TS120S

Fast Recovery Epitaxial Diode INT -A -PAK

Soft-Fast™ Speed FRED

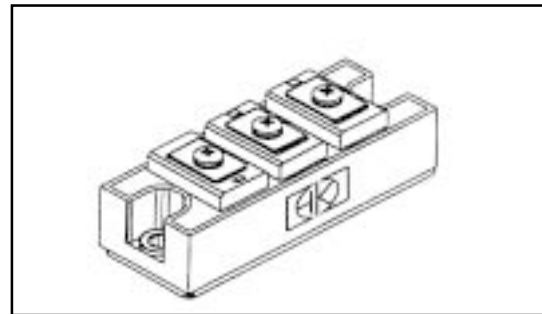
Features

- 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



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}	$T_C=75^\circ\text{C}$	200	A
I_{FAVM}	$T_C=75^\circ\text{C}$; rectangular, $d=0.5$	150	A
I_{FRM}	$t_p < 10\mu\text{s}$; rep. rating, pulse width limited by T_{VJM}	800	A
I_{FSM}	$T_{VJ}=45^\circ\text{C}$; $t=10\text{ms}$ (50 Hz), sine	2240	A
	$t=8.3\text{ms}$ (60 Hz), sine	2660	A
	$T_{VJ}=150^\circ\text{C}$; $t=10\text{ms}$ (50 Hz), sine	1900	A
	$t=8.3\text{ms}$ (60 Hz), sine	2200	A
I^2t	$T_{VJ}=45^\circ\text{C}$; $t=10\text{ms}$ (50 Hz), sine	14700	A^2s
	$t=8.3\text{ms}$ (60 Hz), sine	13400	A^2s
	$T_{VJ}=150^\circ\text{C}$; $t=10\text{ms}$ (50 Hz), sine	12700	A^2s
	$t=8.3\text{ms}$ (60 Hz), sine	11400	A^2s
V_{ISOL}	RMS Isolation Voltage, Any Terminal To Case, $t=1$ min	2500	V
P_D	$T_C=25^\circ\text{C}$	560	W
T_J	Operating Junction Temperature Range	-40 to +150	$^\circ\text{C}$
T_{STG}	Storage Temperature Range	-40 to +125	

Thermal / Mechanical Characteristics

	Parameter	Typ.	Max.	Units
R _{θJS}	Thermal Resistance, Junction-to- Sink DC	-	0.32	
R _{θJC}	Thermal Resistance, Junction-to- Case DC	-	0.22	°C/W
R _{θCS}	Thermal Resistance, Case-to- Sink- Module	0.08	-	
	Mouting Torque, Case-to-Heatsink	-	4.0	N.m
	Mouting Torque, Case-to-Terminal 1,2 & 3	-	3.0	
	Weight of Module	200	-	g

Electrical Characteristics (unless otherwise specified)

	Parameter	Min.	Typ.	Max.	Units	Conditions
V _{RRM}	Reverse Breakdown Voltage	1200	-	-	V	I _R =10mA
I _R	Diode Leaking Current	-	-	10	mA	T _{VJ} =25°C V _R =V _{RRM}
		-	-	4	mA	T _{VJ} =25°C V _R =0.8V _{RRM}
		-	-	40	mA	T _{VJ} =125°C V _R =0.8V _{RRM}
V _F	Diode Forward Voltage	-	-	1.55	V	I _F =150A; T _{VJ} =125°C
		-	-	1.80	V	T _{VJ} = 25°C
		-	-	1.85	V	I _F =200A; T _{VJ} =125°C
		-	-	2.10	V	T _{VJ} = 25°C
V _{TO}	For power-loss calculations only	-	-	1.18	V	
r _T		-	-	1.85	mΩ	
trr@T _{VJ} =100°C	Diode Reverse Recovery Time	-	250	300	ns	I _F =250A
I _{RM} @T _{VJ} = 25°C	Diode Peak Reverse Current	-	-	55	A	V _R =600V
I _{RM} @T _{VJ} =100°C	Diode Peak Reverse Current	-	-	80	A	-di/dt=400A/μs

Case Outline - int-a-pak

