

XI'AN IR-PERI



PRELIMINARY

MZC300TS60S

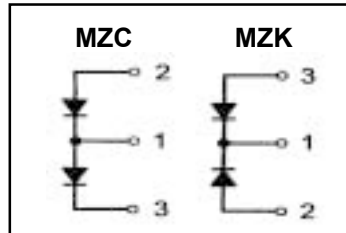
MZK300TS60S

Fast Recovery Epitaxial Diode INT-A -PAK

Soft-Fast™ Speed FRED

Features

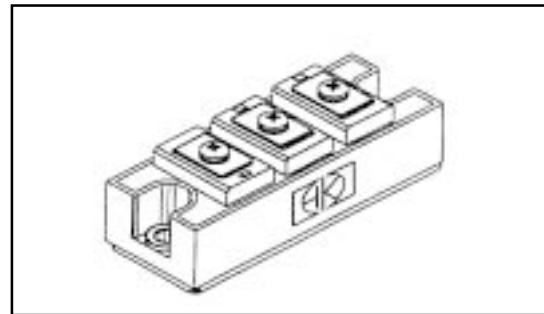
- International standard package
With DBC ceramic base plate
- Planar passivated chips
- Short recovery time
- Low switching losses
- Ultra-soft recovery behaviour
- Industry standard package
- UL recognition pending



V_{RRM} = 600V
I_{FAVM} = 300A
t_{rr} = 250ns

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}		600	V
I _{FRMS}	T _C =75 °C	430	A
I _{FAVM}	T _C =75 °C; rectangular, d=0.5	300	A
I _{FRM}	t _p <10µs; rep. rating, pulse width limited by T _{VJM}	1640	A
I _{FSM}	T _{VJ} =45 °C; t=10ms (50 Hz),sine	2400	A
	t=8.3ms (60 Hz),sine	2640	A
	T _{VJ} =150 °C; t=10ms (50 Hz),sine	2160	A
	t=8.3ms (60 Hz),sine	2380	A
I ² t	T _{VJ} =45 °C; t=10ms (50 Hz),sine	28800	A ² s
	t=8.3ms (60 Hz),sine	29300	A ² s
	T _{VJ} =150 °C; t=10ms (50 Hz),sine	23300	A ² s
	t=8.3ms (60 Hz),sine	23800	A ² s
V _{ISOL}	RMS Isolation Voltage, Any Terminal To Case, t=1 min	2500	V
P _D	T _C =25 °C	880	W
T _J	Operating Junction Temperature Range	-40 to +150	°C
T _{STG}	Storage Temperature Range	-40 to +125	

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Thermal / Mechanical Characteristics

	Parameter	Typ.	Max.	Units
R _{θJS}	Thermal Resistance, Junction-to- Sink DC	∞	0.228	
R _{θJC}	Thermal Resistance, Junction-to- Case DC	∞	0.143	°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	600	∞	∞	V	I _R =12mA
I _R	Diode Leaking Current	∞	∞	12	mA	T _{VJ} =25°C V _R =V _{RRM}
		∞	∞	3	mA	T _{VJ} =25°C V _R =0.8V _{RRM}
		∞	∞	80	mA	T _{VJ} =125°C V _R =0.8V _{RRM}
V _F	Diode Forward Voltage	∞	∞	1.05	V	I _F =150A; T _{VJ} =125°C
		∞	∞	1.27	V	T _{VJ} = 25°C
		∞	∞	1.19	V	I _F =260A; T _{VJ} =125°C
		∞	∞	1.36	V	T _{VJ} = 25°C
V _{TO}	For power-loss calculations only	∞	∞	0.85	V	
r _T		∞	∞	1.34	mΩ	
trr@T _{VJ} =100°C	Diode Reverse Recovery Time	∞	250	300	ns	I _F =300A
I _{RM} @T _{VJ} = 25°C	Diode Peak Reverse Current	∞	∞	44	A	V _R =300V
I _{RM} @T _{VJ} =100°C	Diode Peak Reverse Current	∞	∞	66	A	-di/dt=400A/μs

Case Outline - Int-a-pak

