Preliminary

FRED Module

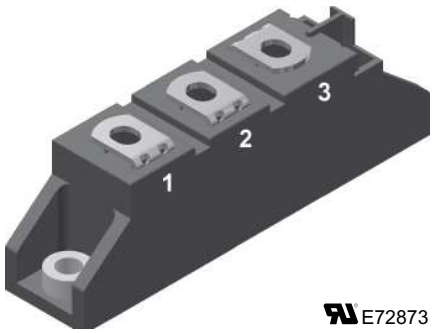
V_{RRM} = 400 V
I_{FAV} = 150 A
t_{rr} = 300 ns

Fast Recovery Epitaxial Diode

Common Cathode

Part number

MEK 150-04DA



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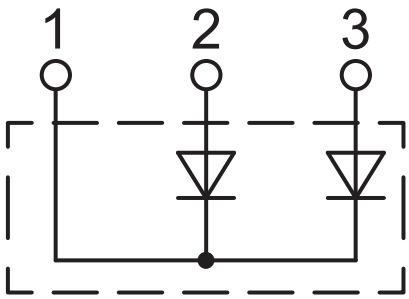


Features / Advantages:

- Planar passivated chips
- Low switching losses
- Soft recovery behaviour
- High reliability circuit operation
- Low voltage peaks for reduced protection circuits
- Low noise switching
- Low losses

Applications:

- Antiparallel diode for high frequency switching devices
- Free wheeling diode in converters and motor control circuits
- Inductive heating and melting
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders

Package: TO-240AA

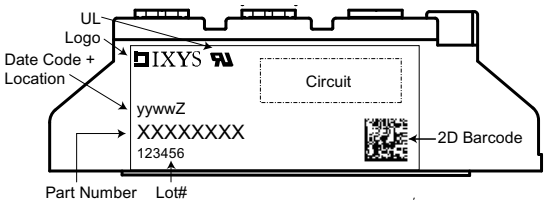
- Isolation voltage: 4800 V~
- Industry standard outline
- RoHS compliant
- Height: 30 mm
- Base plate: DCB ceramic
- Reduced weight
- Advanced power cycling

Preliminary

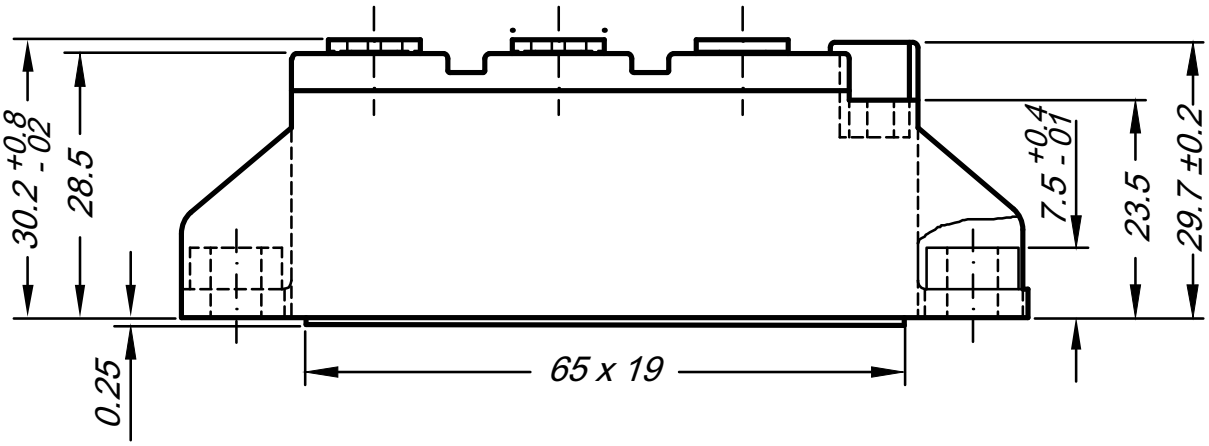
Diode				Ratings			
Symbol	**Definitions**	**Conditions**		**min.**	**typ.**	**max.**	
V_{RSM}	*max. non-repetitive reverse blocking voltage*		T_{VJ} = 25°C			400	V
V_{RRM}	*max. repetitive reverse blocking voltage*		T_{VJ} = 25°C			400	V
I_{FRMS}	*RMS forward current*					200	A
I_{FAVM}	*max. average forward current*	rectangular, d = 0.5	T_C = 100°C			150	A
I_{FSM}	*max. surge forward current*	t = 10 ms (50 Hz), sine	T_{VJ} = 45°C			1200	A
P_{tot}			T_C = 75°C			360	W
I_R	*reverse current*	$V_R = V_{RRM}$	T_{VJ} = 25°C T_{VJ} = 150°C			2 8.5	mA mA
V_F	*forward voltage*	I_F = 300 A	T_{VJ} = 25°C T_{VJ} = 150°C			1.6 1.4	V V
R_{thJC} R_{thCH}	*thermal resistance junction to case* *thermal resistance junction to heatsink*				 0.08	0.35	K/W K/W
I_{RM}	*reverse recovery time*	I_F = 200 A; V_R = 100 V -di/dt = 100 A/µs; L ≤ 0.05 µH	T_{VJ} = 100°C		11	14	A

Preliminary

Package	TO-240AA				Ratings			
Symbol	Definitions	Conditions			min.	typ.	max.	
I_{RMS}	*RMS current*	per terminal					200	A
T_{VJ}	*virtual junction temperature*				-40		150	°C
T_{op}	*operation temperature*				-40		125	°C
T_{stg}	*storage temperature*				-40		125	°C
Weight						76		g
M_D	*mounting torque*				2.5		4	Nm
M_T	*terminal torque*				2.5		4	Nm
$d_{Spp/App}$	*creepage distance on surface | striking distance through air*		*terminal to terminal*	13.0	9.7			mm
$d_{Spb/Apb}$			*terminal to backside*	16.0	16.0			mm
V_{ISOL}	*isolation voltage*	t = 1 second	50/60 Hz, RMS; $I_{ISOL} \leq 1$ mA		4800			V
		t = 1 minute			4000			V



Outlines TO-240AA Dimensions in mm (1 mm = 0.0394“)



General tolerance: DIN ISO 2768 class „c“