

# FRED Module

Fast Recovery Epitaxial Diode

Common Cathode

Preliminary

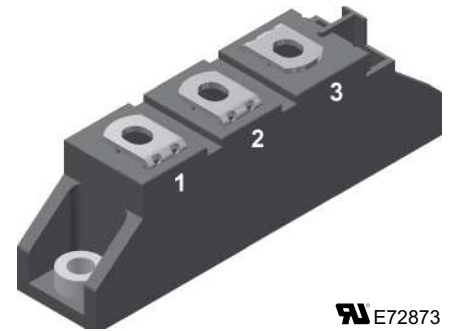
$$V_{RRM} = 400 \text{ V}$$


$$I_{FAV} = 150 \text{ A}$$

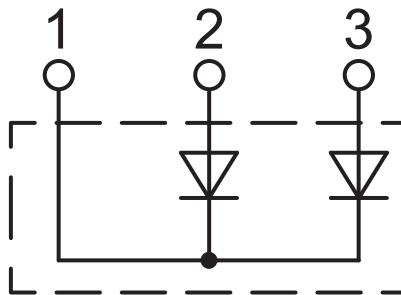
$$t_{rr} = 300 \text{ ns}$$

## Part number

MEK 150-04DA



 E72873



### 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

### Disclaimer Notice

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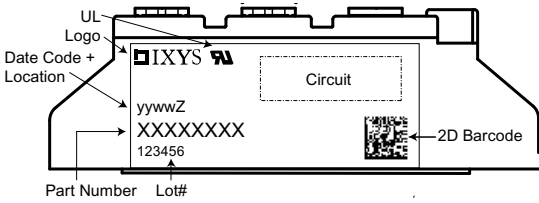
Preliminary

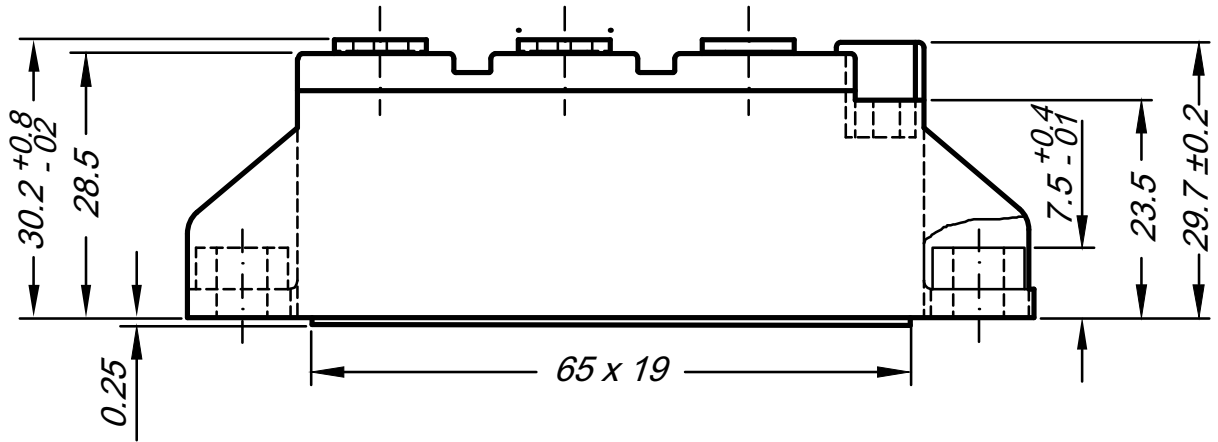
Diode				Ratings			
Symbol	Definitions	Conditions	min.	typ.	max.		
$V_{RSM}$	max. non-repetitive reverse blocking voltage				400	V	
$V_{RRM}$	max. repetitive reverse blocking voltage				400	V	
$I_{FRMS}$	RMS forward current				200	A	
$I_{FAVM}$	max. average forward current	rectangular, d = 0.5			150	A	
$I_{FSM}$	max. surge forward current	t = 10 ms (50 Hz), sine			1200	A	
$P_{tot}$					360	W	
$I_R$	reverse current	$V_R = V_{RRM}$			2 8.5	mA mA	
$V_F$	forward voltage	$I_F = 300$ A			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			11 14	A 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
<b>Weight</b>				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





General tolerance: DIN ISO 2768 class „c“

