

FRED Module

Fast Recovery Epitaxial Diode

Common Anode

Preliminary

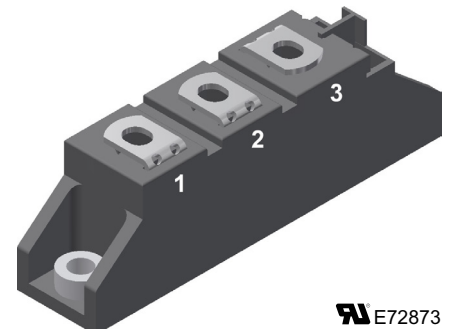
$$V_{RRM} = 600 \text{ V}$$

$$I_{FAV} = 95 \text{ A}$$

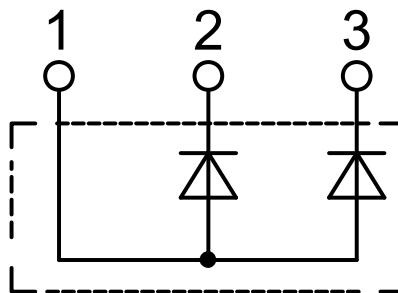
$$t_{rr} = 35 \text{ ns}$$

Part number

MPA 95-06DA



 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

Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at www.littelfuse.com/disclaimer-electronics.

Littelfuse/IXYS reserves the right to change limits, test conditions and dimensions.
 Data according to IEC 60747 and per semiconductor unless otherwise specified.

20230926a

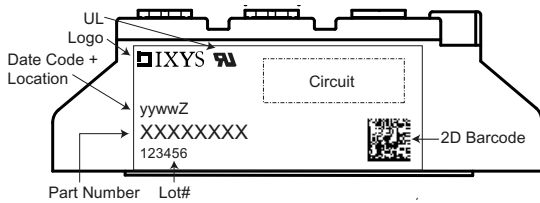


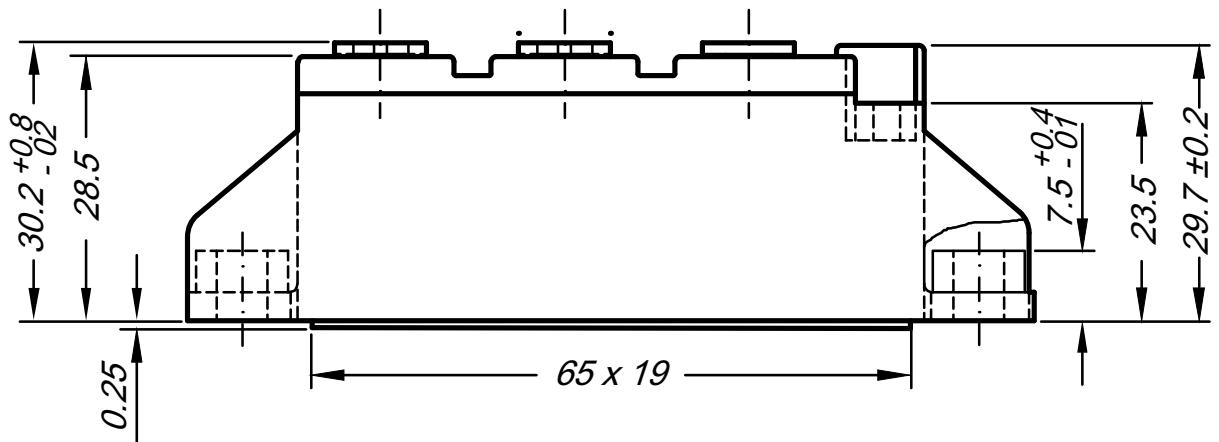
Preliminary

Diode				Ratings			
Symbol	Definitions	Conditions		min.	typ.	max.	
V_{RSM}	max. non-repetitive reverse blocking voltage		$T_{VJ} = 25^{\circ}\text{C}$			600	V
V_{RRM}	max. repetitive reverse blocking voltage		$T_{VJ} = 25^{\circ}\text{C}$			600	V
I_{FRMS}	RMS forward current					200	A
$I_{FAV}^{①}$	average forward current	sine 180°	$T_C = 110^{\circ}\text{C}$			95	A
I_{FSM}	max. surge forward current	$t = 10 \text{ ms}$ (50 Hz), sine	$T_{VJ} = 45^{\circ}\text{C}$			1200	A
P_{tot}			$T_C = 25^{\circ}\text{C}$			215	W
I_R	reverse current	$V_R = V_{RRM}$	$T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 125^{\circ}\text{C}$			1.3 5	mA mA
V_F	forward voltage	$I_F = 50 \text{ A}$ $I_F = 100 \text{ A}$	$T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 125^{\circ}\text{C}$ $T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 125^{\circ}\text{C}$			1.73 1.22 1.89 1.40	V V V V
V_{T0}	threshold voltage	for power-loss calculations only	$T_{VJ} = T_{VJM}$			0.98	V
r_T	slope resistance					2.3	mΩ
R_{thJC}	thermal resistance junction to case					0.575	K/W
R_{thCH}	thermal resistance junction to heatsink				0.1		K/W
t_{rr}	max. reverse recovery current	$I_F = 1 \text{ A}; V_R = 30 \text{ V}; -di/dt = 300 \text{ A}/\mu\text{s}$	$T_{VJ} = 25^{\circ}\text{C}$		35		ns
I_{RM}	reverse recovery time	$I_F = 130 \text{ A}; V_R = 100 \text{ V}$ $-di/dt = 300 \text{ A}/\mu\text{s}; L \leq 0.05 \mu\text{H}$	$T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 100^{\circ}\text{C}$		5.5	4.0 6.8	A A
① I_{FAVM} rating includes reverse blocking losses at T_{VJM} , $V_R = 0.8 V_{RRM}$, duty cycle $d = 0.5$							

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





General tolerance: DIN ISO 2768 class „c“

