

Standard Rectifier

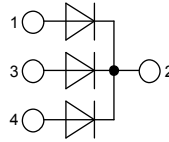
half 3~ Bridge, Common Cathode

$$V_{RRM} = 1600 \text{ V}$$

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

$$V_F = 1.12 \text{ V}$$

Part number

DMA 150 YC 1600 NA


Backside: isolated

E72873

Features / Advantages:

- Planar passivated chips
- Very low leakage current
- Very low forward voltage drop
- Improved thermal behaviour

Applications:

- Diode for main rectification
- For single and three phase bridge configurations

Package:

- Housing: SOT-227B (minibloc)
- Industry standard outline
- Cu base plate internal DCB isolated
- Isolation Voltage 3000 V
- Epoxy meets UL 94V-0
- RoHS compliant

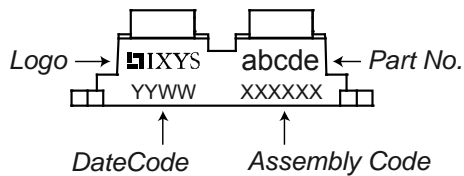
Ratings

Symbol	Definition	Conditions	Ratings			Unit	
			min.	typ.	max.		
V_{RRM}	max. repetitive reverse voltage				1600	V	
I_R	reverse current	$V_R = 1600 \text{ V}$			100	μA	
		$V_R = 1600 \text{ V}$			1.5	mA	
V_F	forward voltage	$I_F = 50 \text{ A}$			1.20	V	
		$I_F = 100 \text{ A}$			1.40	V	
		$I_F = 50 \text{ A}$	$T_{VJ} = 125^\circ\text{C}$			1.12	V
		$I_F = 100 \text{ A}$	$T_{VJ} = 125^\circ\text{C}$			1.38	V
I_{DAV}	bridge output current	rectangular $d = 1/3$	$T_C = 85^\circ\text{C}$		150	A	
V_{F0}	threshold voltage	} for power loss calculation only	$T_{VJ} = 150^\circ\text{C}$		0.85	V	
r_F	slope resistance				5.3	m Ω	
R_{thJC}	thermal resistance junction to case				0.75	K/W	
T_{VJ}	virtual junction temperature		-40		150	$^\circ\text{C}$	
P_{tot}	total power dissipation		$T_C = 25^\circ\text{C}$		160	W	
I_{FSM}	max. forward surge current	$t = 10 \text{ ms}; (50 \text{ Hz}), \text{ sine}$	$T_{VJ} = 45^\circ\text{C}$		700	A	
		$t = 8,3 \text{ ms}; (60 \text{ Hz}), \text{ sine}$	$V_R = 0 \text{ V}$		755	A	
		$t = 10 \text{ ms}; (50 \text{ Hz}), \text{ sine}$	$T_{VJ} = 150^\circ\text{C}$		595	A	
		$t = 8,3 \text{ ms}; (60 \text{ Hz}), \text{ sine}$	$V_R = 0 \text{ V}$		645	A	
I^2t	value for fusing	$t = 10 \text{ ms}; (50 \text{ Hz}), \text{ sine}$	$T_{VJ} = 45^\circ\text{C}$		2.45	kA ² s	
		$t = 8,3 \text{ ms}; (60 \text{ Hz}), \text{ sine}$	$V_R = 0 \text{ V}$		2.37	kA ² s	
		$t = 10 \text{ ms}; (50 \text{ Hz}), \text{ sine}$	$T_{VJ} = 150^\circ\text{C}$		1.77	kA ² s	
		$t = 8,3 \text{ ms}; (60 \text{ Hz}), \text{ sine}$	$V_R = 0 \text{ V}$		1.73	kA ² s	
C_J	junction capacitance	$V_R = 400 \text{ V}; f = 1 \text{ MHz}$	$T_{VJ} = 25^\circ\text{C}$		25	pF	

Symbol	Definition	Conditions	Ratings			Unit
			min.	typ.	max.	
I_{RMS}	RMS current	per pin			150	A
R_{thCH}	thermal resistance case to heatsink			0.10		K/W
T_{stg}	storage temperature		-40		150	°C
Weight				30		g
M_D	mounting torque		1.1		1.5	Nm
M_T	terminal torque		1.1		1.5	Nm
V_{ISOL}	isolation voltage	t = 1 second	3000			V
		t = 1 minute	2500			V
d_s	creepage distance on surface		8			mm
d_A	striking distance through air		4			mm

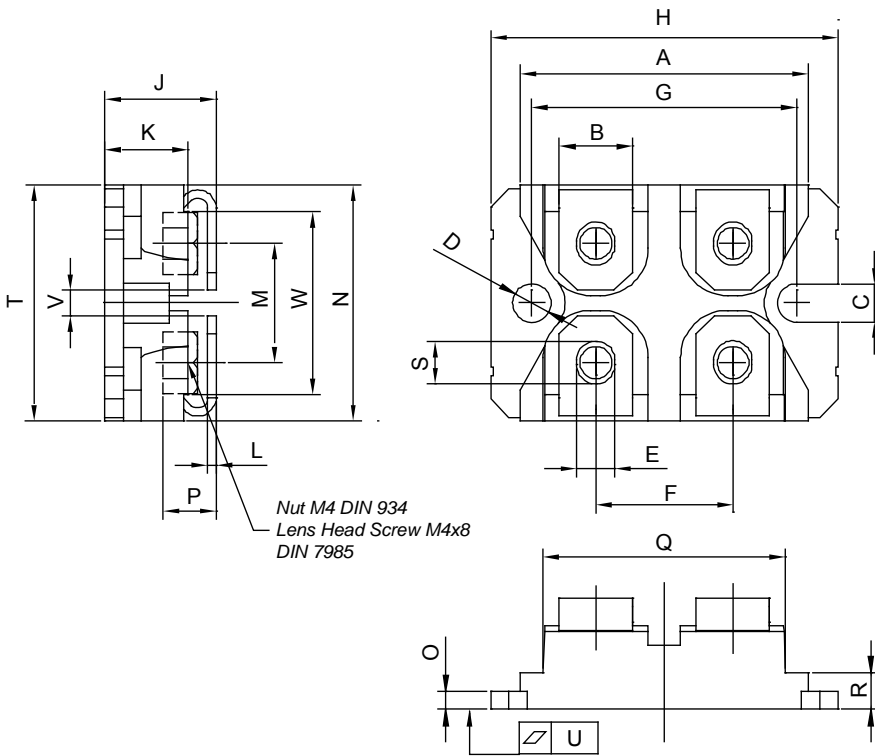
Part number

D = Diode
 M = Standard Rectifier
 A = (up to 1800 V)
 150 = Current Rating [A]
 YC = half 3~ Bridge, Common Cathode
 1600 = Reverse Voltage [V]
 NA = SOT-227B (minibloc)

Product Marking


Ordering	Part Name	Marking on Product	Delivering Mode	Base Qty	Code Key
Standard	DMA 150 YC 1600 NA	DMA150YC1600NA	Tube	10	509174

Similar Part	Package	Voltage class
DMA150YA1600NA	SOT-227B (minibloc)	1600

Outlines SOT-227B (minibloc)


SYM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	31.50	31.88	1.240	1.255
B	7.80	8.20	.307	.323
C	4.09	4.29	.161	.169
D	4.09	4.29	.161	.169
E	4.09	4.29	.161	.169
F	14.91	15.11	.587	.595
G	30.12	30.30	1.186	1.193
H	37.80	38.23	1.489	1.505
J	11.68	12.22	.460	.481
K	8.92	9.60	.351	.378
L	0.76	0.84	.030	.033
M	12.60	12.85	.496	.506
N	25.15	25.42	.990	1.001
O	1.98	2.13	.078	.084
P	4.95	5.97	.195	.235
Q	26.54	26.90	1.045	1.059
R	3.94	4.42	.155	.174
S	4.72	4.85	.186	.191
T	24.59	25.07	.968	.987
U	-.05	.10	-.002	.004
V	3.30	4.57	.130	.180
W	19.81	21.08	.780	.830