YK ELECTRONICS
(주)영광산전

D1DM300H06NA1

Ultra-Fast Soft Recovery Diode Module

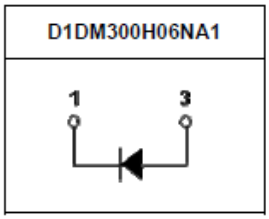
Features

- High current density
- Very soft recovery behavior
- Small switching losses
- High ruggedness
- Easy paralleling due to a small forward voltage spread and a positive temperature coefficient
- Isolation type package

Applications

- Motor controls
- High power converters
- Optimized for high current inverter stages (AC TIG welding machines)
- Free wheeling use
- UPS
- Inductive heating and melting

Package : A1



Absolute Maximum Ratings @ T_j = 25℃ (per leg)

Symbol	Parameter	Test condition	Rating	Unit
V_{RRM}	Repetitive peak reverse voltage	T_j=25℃, I_R=250㎂	600	V
$V_{R(DC)}$	Reverse DC voltage		480	A
$I_{F(AV)}$	Average forward current @ Tc=25℃	Resistive load	600	A
	@ Tc=100℃		300	A
I_{FSM}	Maximum surge forward current	Half sine wave at 60Hz, peak value	6000	A
I^2t	Value for fusing	T_j=25℃, 8.3㎳, half sine wave	66700	A^2s
V_{iso}	Isolation voltage	AC @ 1 minute	2500	V
P_D	Maximum power dissipation	Tc = 25℃	880	W
T_j	Junction temperature		-40 ~ 150	℃
T_{stg}	Storage temperature		-40 ~ 125	℃
Weight	Weight of module		190	g
M_d	Mounting torque with screw : M6		4.0	N.m
	Terminal connection torque : M6		3.0	N.m

Thermal Characteristics

Symbol	Parameter	Min	Typ	Max	Unit
$R_{\theta JC}$	Junction-to-Case	-	-	0.12	℃/W

Electrical Characteristics @ T_j = 25℃ (unless otherwise specified)

Symbol	Parameter	Condition		Min	Typ	Max	Unit
V_R	Cathode-Anode breakdown voltage	I_R=250㎂		600	-	-	V
V_{FM}	Maximum forward voltage	I_{FM}=300A	Tc = 25℃	-	1.5	1.7	V
			Tc = 125℃	-	1.3	1.5	V
I_{RRM}	Repetitive peak reverse current	Tc=100℃, V_R=600V		-	-	10.0	㎃
t_{rr}	Reverse recovery time	I_{FM}=300A V_R=300V -di/dt=100A/㎲	Tc = 25℃	-	180	220	ns
			Tc = 100℃		220		ns

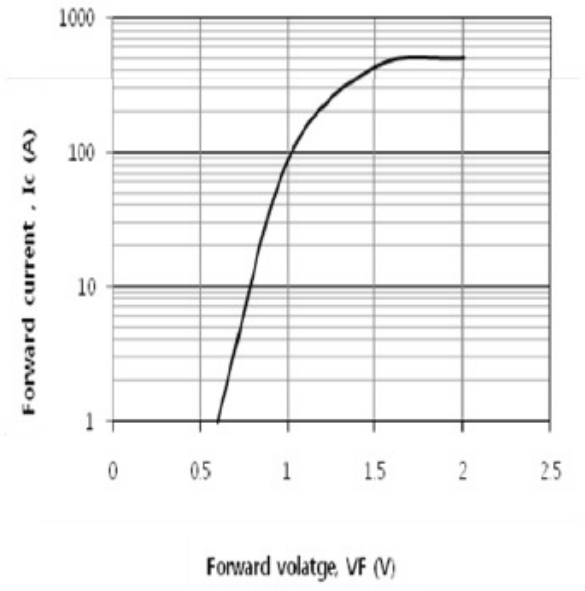


Fig 1. Forward voltage drop vs. Forward current

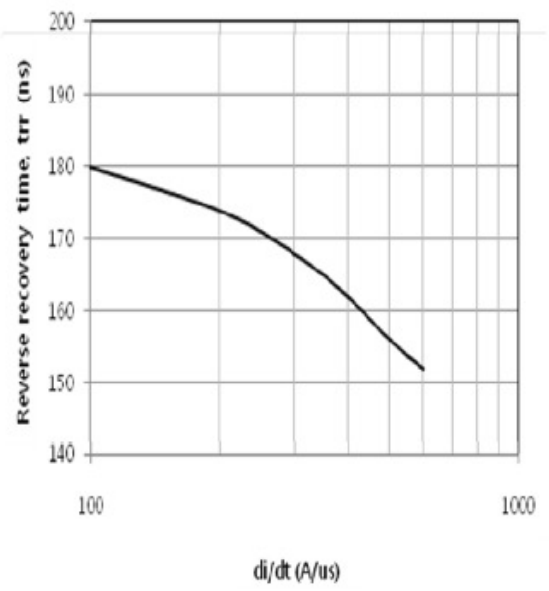


Fig 2. Reverse recovery time vs. di/dt

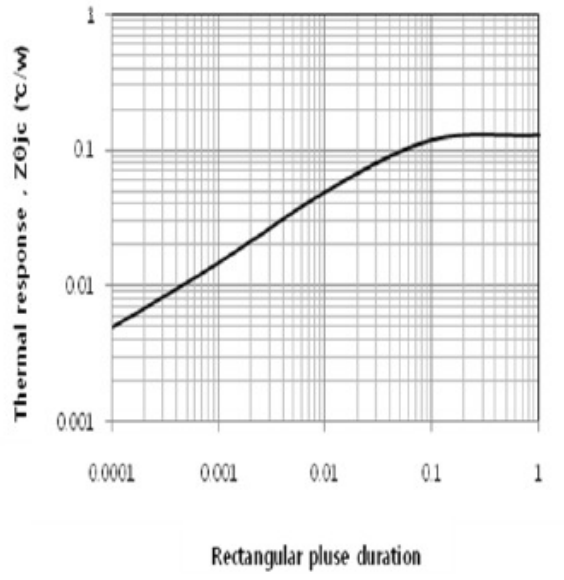


Fig 3. Transient thermal impedance (ZΘjc)

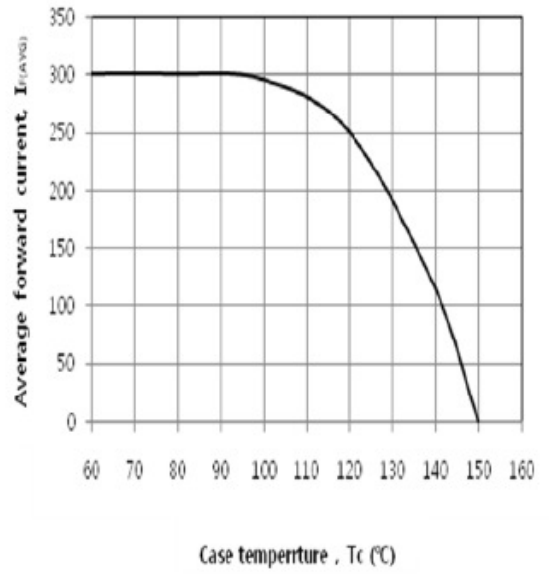
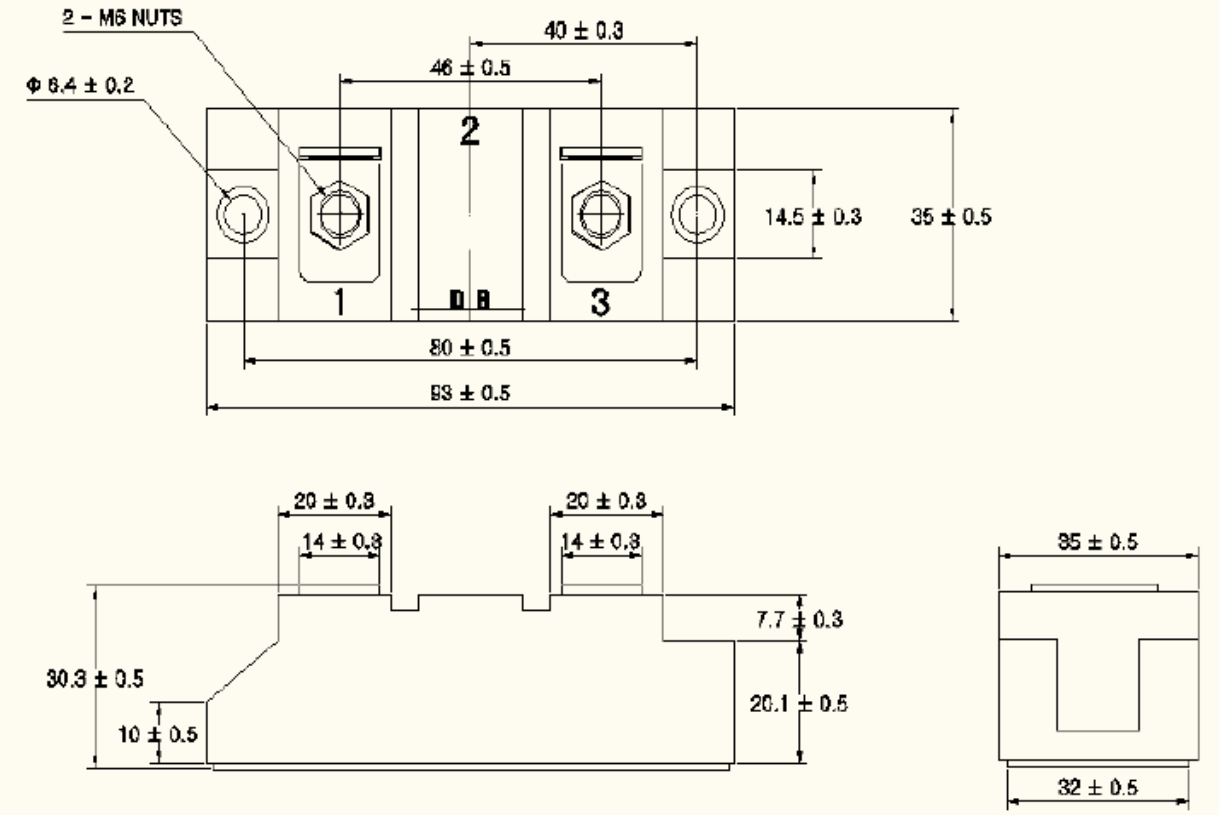


Fig 4. Forward current derating curve

Package Outline (dimensions in mm)



* Data and specifications subject to change without notice.

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