

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

D2DM150C06NA1	D2DM150C06PA1
Common center, N-Type	Common center, P-Type

Absolute Maximum Ratings @ $T_J = 25^\circ\text{C}$ (per leg)

Symbol	Parameter	Test condition	Rating	Unit
V_{RRM}	Repetitive peak reverse voltage	$T_J=25^\circ\text{C}$, $I_R=250\mu\text{A}$	600	V
$V_{R(DC)}$	Reverse DC voltage		480	A
$I_{F(AV)}$	Average forward current @ $T_C=25^\circ\text{C}$ @ $T_C=100^\circ\text{C}$	Resistive load	300	A
			150	A
I_{FSM}	Maximum surge forward current	Half sine wave at 60Hz, peak value	2750	A
I^2_t	Value for fusing	$T_J=25^\circ\text{C}$, 8.3ms, half sine wave	35700	A ² s
V_{iso}	Isolation voltage	AC @ 1 minute	2500	V
P_D	Maximum power dissipation	$T_C = 25^\circ\text{C}$	560	W
T_J	Junction temperature		-40 ~ 150	$^\circ\text{C}$
T_{stg}	Storage temperature		-40 ~ 125	$^\circ\text{C}$
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	-	-	0.22	$^\circ\text{C/W}$

Electrical Characteristics @ $T_j = 25^\circ\text{C}$ (unless otherwise specified)

Symbol	Parameter	Condition		Min	Typ	Max	Unit
V_R	Cathode-Anode breakdown voltage	$I_R=250\mu\text{A}$		600	-	-	V
V_{FM}	Maximum forward voltage	$I_{FM}=150\text{A}$	$T_C = 25^\circ\text{C}$	-	1.5	1.7	V
			$T_C = 125^\circ\text{C}$	-	1.3	1.5	V
I_{RRM}	Repetitive peak reverse current	$T_C=100^\circ\text{C}$, $V_R=600\text{V}$		-	-	6.0	mA
t_{rr}	Reverse recovery time	$I_{FM}=150\text{A}$ $V_R=300\text{V}$ $-di/dt=100\text{A}/\mu\text{s}$	$T_C = 25^\circ\text{C}$	-	160	200	ns
			$T_C = 100^\circ\text{C}$		220		ns

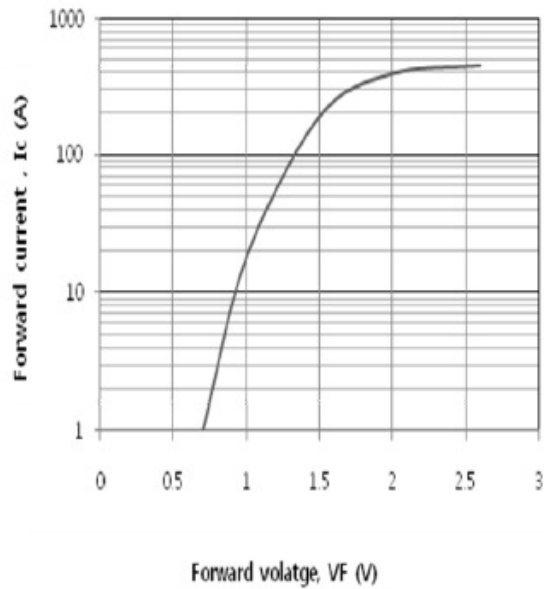


Fig 1. Forward voltage drop vs. Forward current

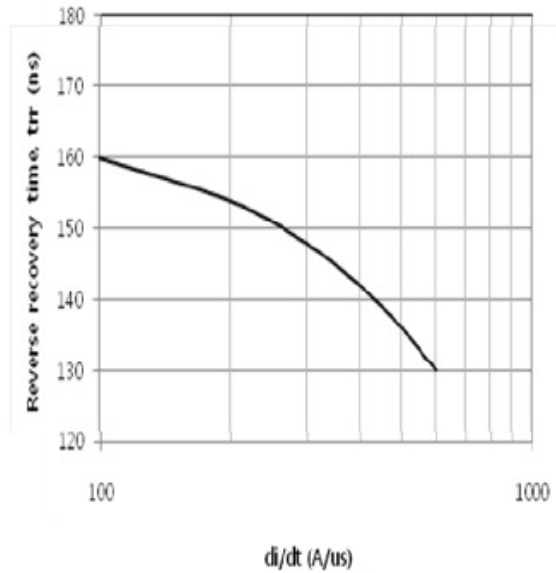


Fig 2. Reverse recovery time vs. di/dt

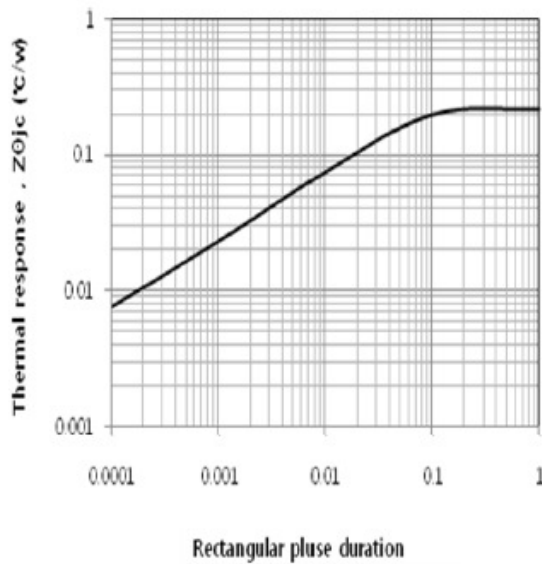


Fig 3. Transient thermal impedance ($Z_{\Theta jc}$)

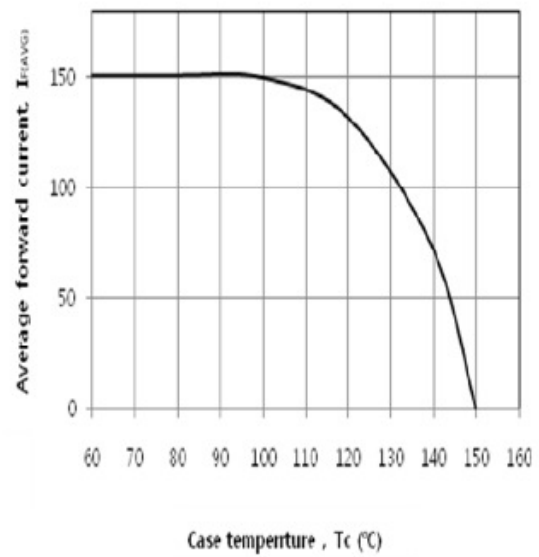
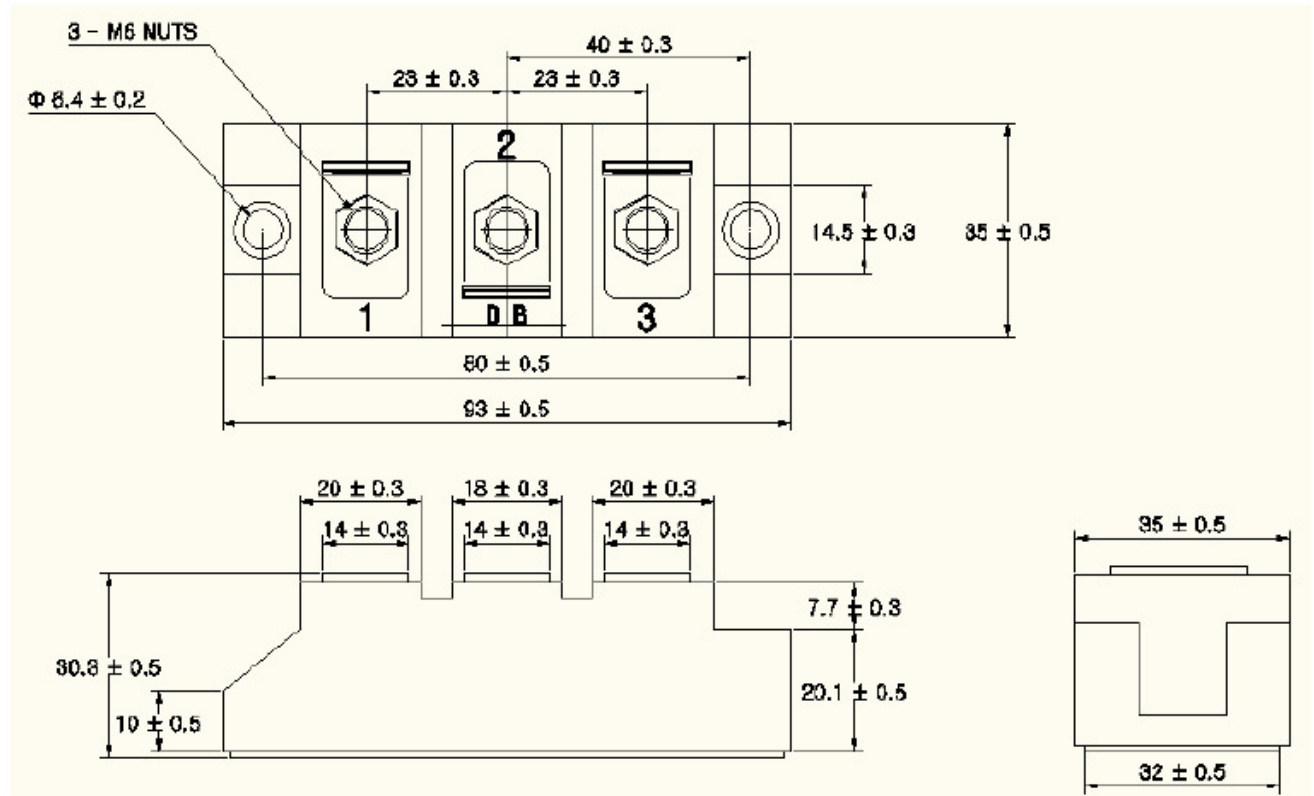


Fig 4. Forward current derating curve

Package Outline (dimensions in mm)



* Data and specifications subject to change without notice.