

THREE PHASE DIODE+THYRISTOR

DFA200AA80/160

UL;E76102 (M)

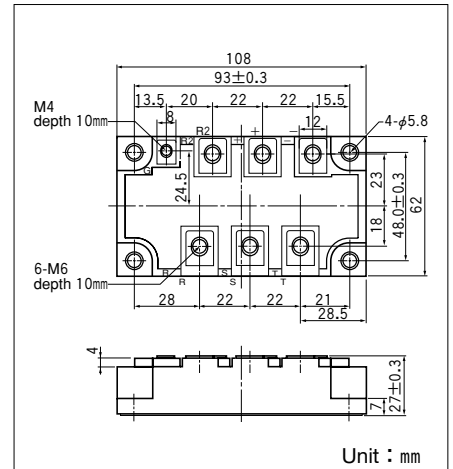
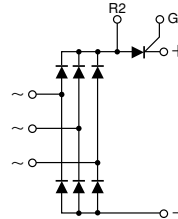
SanRex Power Module, DFA200AA, is complex isolated module which is designed for rash current circuit.

It contains six diodes connected in a three phase bridge configuration, and a thyristor connected to a direct current line.

- This Module is designed very compactly. Because diode module and thyristor put together.
- This Module is also isolated type between electorode terminal and mounting base. So you can put this Module and other one together in a same fin.

(Application)

- Inverter for AC or DC motor control, Current stabilized power supply, Switching power supply.



● DIODE

■ Mximum Ratings

(T_j=25°C unless otherwise specified)

Symbol	Item	Ratings		Unit
		DFA200AA80	DFA200AA160	
V _{RRM}	Repetitive Peak Reverse Voltage	800	1600	V
V _{RSM}	Non-Repetitive Peak Reverse Voltage	960	1700	V

Symbol	Item	Conditions	Ratings	Unit
I _D	Output Current (D.C.)	Three phase full wave, T _c =96°C	200	A
I _{FSM}	Surge forward current	1 cycle, 50/60Hz, peak value, non-repetitive	1850/2000	kA
T _j	Operating Junction Temperature		-30 to +150	°C
T _{stg}	Storage Temperature		-30 to +135	°C
V _{ISO}	Isolation Breakdown Voltage (R.M.S.)	A.C. 1 minute	2500	V
	Mounting Torque	Mounting (M5)	Recommended Value 1.5-2.5 (15-25)	N·m (kgf·cm)
		Terminal (M6)	Recommended Value 2.5-3.9 (25-40)	
		Terminal (M4)	Recommended Value 1.0-1.4 (10-14)	
	Mass	Typical Value	460	g

■ Electrical Characteristics

Symbol	Item	Conditions	Ratings	Unit
I _{RRM}	Repetitive Peak Reverse Current,max.	T _j =150°C, V _R =V _{RRM}	20	mA
V _{FM}	Forward Voltage Drop,max.	I _F =200A Inst. measurement	1.35	V
R _{th(j-c)}	Thermal Impedance, max.	Junction to Case (TOTAL)	0.10	°C/W



● THYRISTOR

■ Maximum Ratings

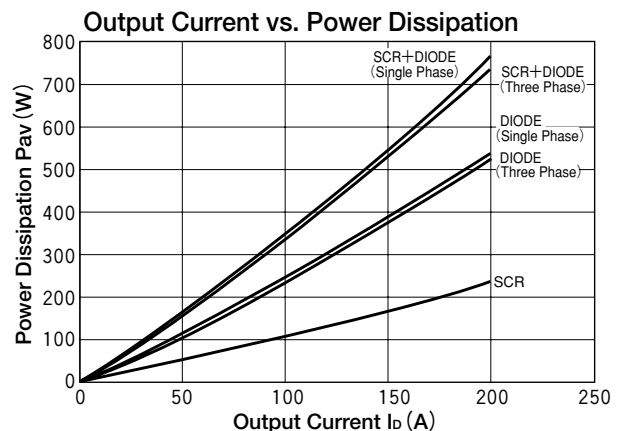
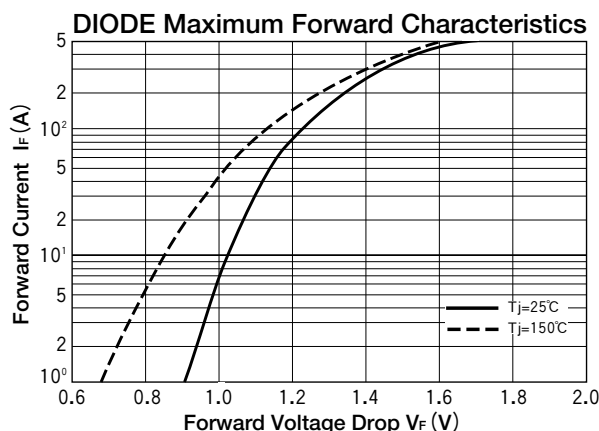
($T_j = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Item	Ratings		Unit
		DFA200AA80	DFA200AA160	
V_{RRM}	Repetitive Peak Reverse Voltage	800	1600	V
V_{RSM}	Non-Repetitive Peak Reverse Voltage	960	1700	V
V_{DRM}	Repetitive Peak Off-State Voltage	800	1600	V

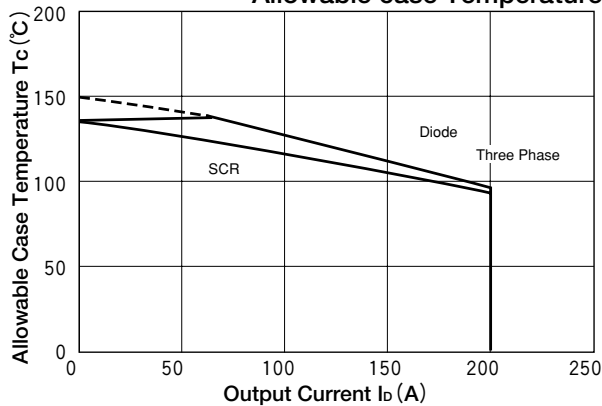
Symbol	Item	Conditions	Ratings	Unit
$I_{T(AV)}$	Average On-State Current	Singl phase half wave. 180° conduction, $T_c = 93^\circ\text{C}$	200	A
I_{TSM}	Surge On-State Current	$\frac{1}{2}$ cycle, 50/60Hz, peak value, non-repetitive	1850/2000	A
I^2t	I^2t (for fusing)	Value for one of surge current	17000	A^2s
di/dt	Critical Rate of Rise of On-State Current	$I_G = 100\text{mA}$, $V_D = \frac{1}{2}V_{DRM}$, $di/dt = 0.1\text{A}/\mu\text{s}$	200	$\text{A}/\mu\text{s}$
V_{ISO}	Isolation Breakdown Voltage (R.M.S.)	A.C. 1minute	2500	V
T_j	Operating Junction Temperature	$T_j = 125^\circ\text{C} \sim 135^\circ\text{C}$	-30 to $+135$	$^\circ\text{C}$
T_{stg}	Storage Temperature		-30 to $+135$	$^\circ\text{C}$
	Mounting Torque	Mounting (M5)	Recommended Value 1.5-2.5 (15-25)	$\text{N}\cdot\text{m}$ ($\text{kgf}\cdot\text{cm}$)
		Terminal (M6)	Recommended Value 2.5-3.9 (15-25)	
		Terminal (M4)	Recommended Value 1.0-1.4 (15-25)	
	Mass	Typical Value	460	g

■ Electrical Characteristics

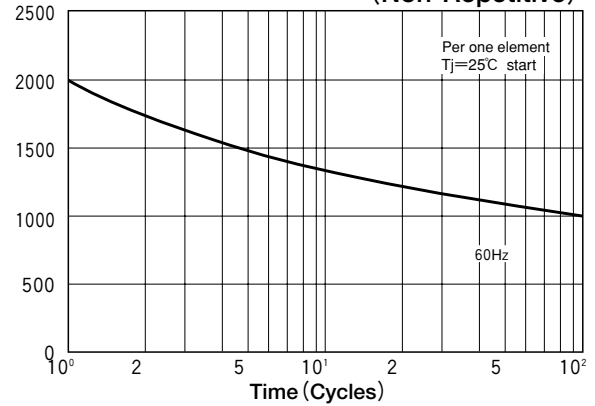
Symbol	Item	Conditions	Ratings	Unit
I_{DRM}	Repetitive Peak off-State Current, max.	$T_j = 135^\circ\text{C}$, $V_D = V_{DRM}$	50	mA
I_{RRM}	Repetitive Peak Reverse Current, max.	$T_j = 135^\circ\text{C}$, $V_D = V_{DRM}$	50	mA
V_{TM}	Peak on-State Voltage, max.	$I_T = 200\text{A}$ Inst. measurement	1.15	V
I_{GT}	Gate Trigger Current, max.	$V_D = 6\text{V}$, $I_T = 1\text{A}$	100	mA
V_{GT}	Gate Trigger Voltage, max.	$V_D = 6\text{V}$, $I_T = 1\text{A}$	3	V
dv/dt	Critical Rate of off-State Voltage, min.	$T_j = 125^\circ\text{C}$, $V_D = \frac{2}{3}V_{DRM}$	500	$\text{V}/\mu\text{s}$
$R_{th(j-c)}$	Thermal Impedance, max.	Junction to Case	0.18	$^\circ\text{C}/\text{W}$



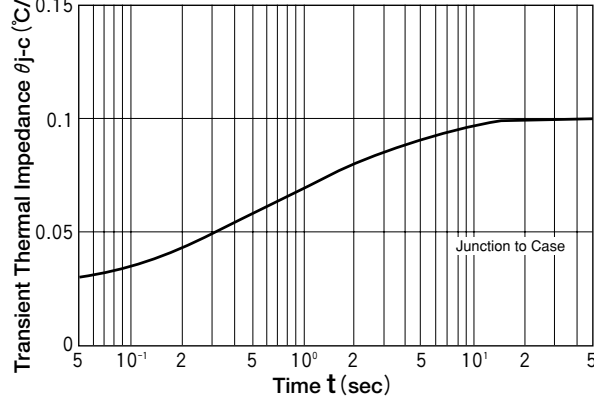
Output Current vs. Allowable case Temperature



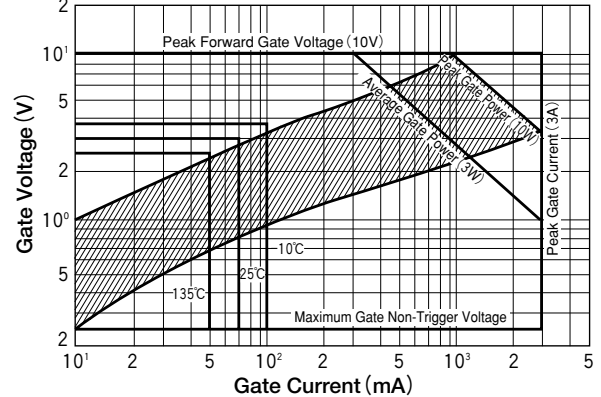
DIODE Surge Forward Current Rating (Non-Repetitive)



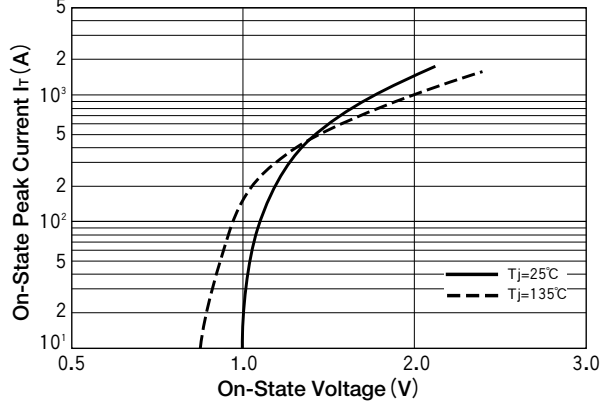
DIODE Transient Thermal Impedance



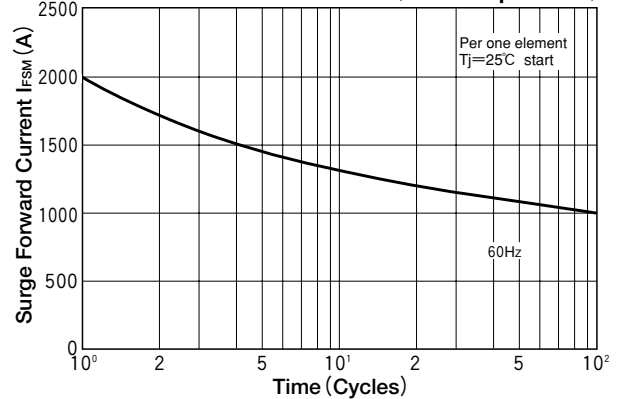
Gate Characteristics



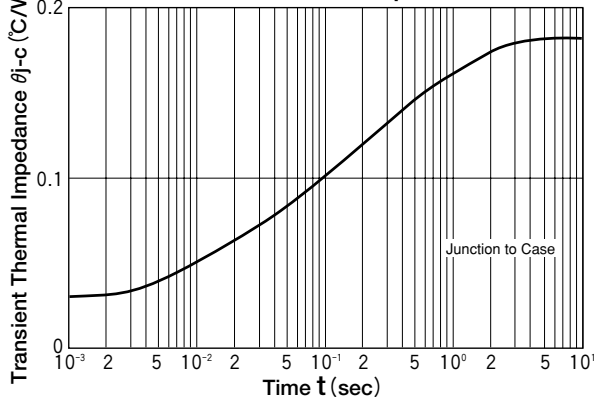
SCR On-State Characteristics



Surge On-State Current Rating (Non-Repetitive)



SCR Transient Thermal Impedance



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[SanRex:](#)

[DFA200AA160](#) [DFA200AA80](#)