

THREE PHASE DIODE+THYRISTOR

DFA75BA80/160

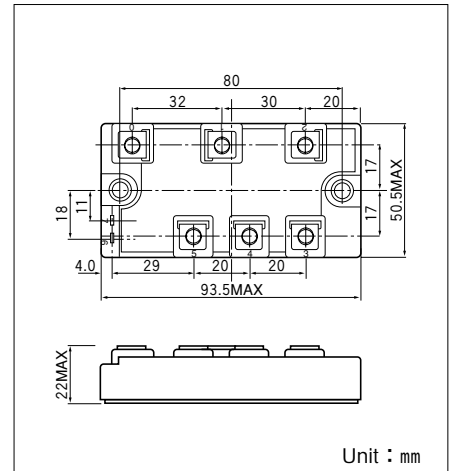
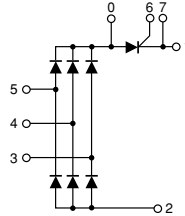
SanRex Power Module, **DFA75BA**, is complex isolated module which is designed for rash current circuit.

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

■ Maximum Ratings

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

Symbol	Item	Ratings		Unit
		DFA75BA80	DFA75BA160	
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, $T_c=101^\circ\text{C}$	75	A	
I_{FSM}	Surge forward current	1cycle, 50/60Hz, peak value, non-repetitive	910/1000	A	
T_j	Operating Junction Temperature		-40 to +150	$^\circ\text{C}$	
T_{stg}	Storage Temperature		-40 to +125	$^\circ\text{C}$	
V_{ISO}	Isolation Breakdown Voltage (R.M.S.)	A.C. 1minute	2500	V	
	Mounting Torque	Mounting (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	N·m (kgf·cm)
		Terminal (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	
	Mass	Typical Value	150	g	

■ Electrical Characteristics

Symbol	Item	Conditions	Ratings	Unit
I_{RRM}	Repetitive Peak Reverse Current,max.	$T_j=150^\circ\text{C}$, $V_R=V_{RRM}$	8	mA
V_{FM}	Forward Voltage Drop,max.	$T_j=25^\circ\text{C}$, $I_F=75\text{A}$, Inst. measurement	1.30	V
$R_{th(j-c)}$	Thermal Impedance, max.	Junction to Case (TOTAL)	0.25	$^\circ\text{C/W}$
$R_{th(c-f)}$	Thermal Impedance, max.		0.10	$^\circ\text{C/W}$

● THYRISTOR

■ Maximum Ratings

(T_j=25°C unless otherwise specified)

Symbol	Item	Ratings		Unit
		DFA75BA80	DFA75BA160	
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 hulfwave. 180° conduction, T _c =99°C	75	A	
I _{TSM}	Surge On-State Current	1 cycle, 50/60Hz, peak value, non-repetitive	910/1000	A	
I ² t	I ² t		4150	A ² S	
di/dt	Critical Rate of Rise of On-State Current	I _G =100mA, V _D =1/2V _{DRM} , di _G /dt=0.1A/μs	150	A/μs	
V _{ISO}	Isolation Breakdown Voltage (R.M.S.)	A.C. 1minute	2500	V	
T _j	Operating Junction Temperature		-40 to +135	°C	
T _{stg}	Storage Temperature		-40 to +125	°C	
	Mounting Torque	Mounting (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	N·m (kgf·cm)
		Terminal (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	
	Mass	Typical Value		150	g

■ Electrical Characteristics

Symbol	Item	Conditions	Ratings	Unit
I _{DRM}	Repetitive Peak Off-State Current,max.	T _j =135°C, V _D =V _{DRM}	60	mA
I _{RRM}	Repetitive Peak Reverse Current,max.	T _j =135°C, V _D =V _{RRM}	60	mA
V _{TM}	Peak On-State Voltage,max.	T _j =25°C, I _{TM} =75A, Inst. measurement	1.20	V
I _{GT}	Gate Trigger Current,max.	V _D =6V, I _T =1A	70	mA
V _{GT}	Gate Trigger Voltage,max.	V _D =6V, I _T =1A	3	V
dv/dt	Critical Rate of Rise of Off-State Voltage,min.	T _j =125°C, V _D =2/3V _{DRM}	500	V/μs
R _{th(j-c)}	Thermal Impedance, max.	Junction to Case	0.40	°C/W
R _{th(c-f)}	Thermal Impedance, max.	Case to Fin	0.10	°C/W

