

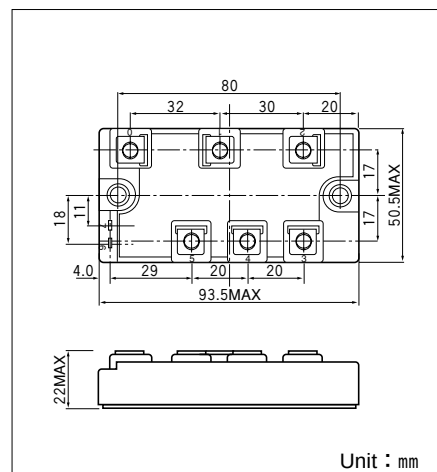
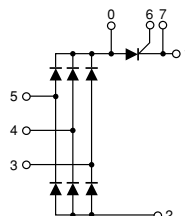
SHILING Power Module, **MDST100A** is complex isolated module which is designed for rash current circuit.

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.



Unit : mm

● DIODE

■ Maximum Ratings

(T_j=25°C unless otherwise specified)

Symbol	Item	Ratings		Unit
		MDST100A800	MDST100A1600V	
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 =98°C	100	A
I _{FSM}	Surge forward current		1 cycle, 50/60Hz, peak value, non-repetitive	1186/1300	A
T _j	Operating Junction Temperature			-40 to +150	°C
T _{stg}	Storage Temperature			-40 to +125	°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
		Terminal (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	(kgf·cm)
	Mass		Typical Value	150	g

■ Electrical Characteristics

Symbol	Item		Conditions	Ratings	Unit
I _{RRM}	Repetitive Peak Reverse Current,max.		T _j =150°C, V _R =V _{RRM}	12	mA
V _{FM}	Forward Voltage Drop,max.		T _j =25°C, I _F =100A, Inst. measurement	1.30	V
R _{th(j-c)}	Thermal Impedance, max.		Junction to Case (TOTAL)	0.20	°C/W
R _{th(c-f)}	Thermal Impedance, max.		Case to Fin	0.10	°C/W

Maximum Ratings

(T_j=25°C unless otherwise specified)

Symbol	Item	Ratings		Unit
		MDST100A800V	MDST100A1600V	
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 =92°C	100	A
I _{TSM}	Surge On-State Current		1 cycle, 50/60Hz, peak value, non-repetitive	1186/1300	A
I ² t	I ² t			7030	A²s
di/dt	Critical Rate of Rise of On-State Current		I _G =100mA, V _D =½V _{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)
		Terminals (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}	70	mA
I _{RRM}	Repetitive Peak Reverse Current,max.	T _j =135°C, V _D =V _{RRM}	70	mA
V _{TM}	Peak On-State Voltage,max.	T _j =25°C, I _{TM} =100A, 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 =⅔V _{DRM}	500	V/μs
R _{th(j-c)}	Thermal Impedance, max.	Junction to Case	0.36	°C/W
R _{th(c-f)}	Thermal Impedance, max.	Case to Fin	0.10	°C/W

