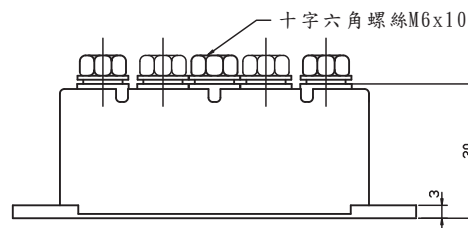
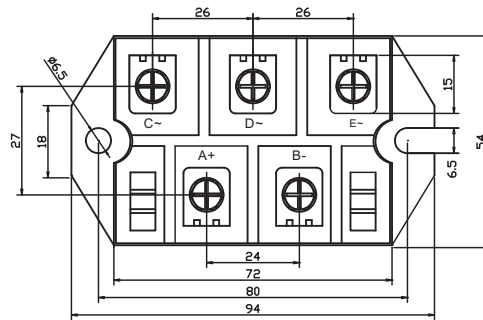


Three-phase half-controlled bridge rectifier, 110A


MSTP110-12 Thru MSTP 110-16



Dimensions in mm



FEATURES

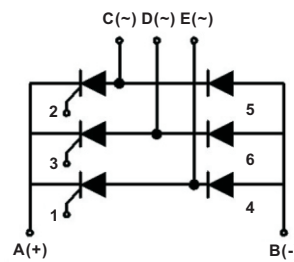
- Glass-passivated chips
- Low forward voltage drop
- UL approved file E320098 
- Compliant to RoHS

APPLICATIONS

- Power supply for DC power device
- Input rectifier for PWM converter

ADVANTAGE

- Easy mounting
- Small volume, light weight
- Small thermal resistance
- Low temperature rise



MAJOR RATINGS AND CHARACTERISTICS			
SYMBOL	CHARACTERISTICS	VALUES	UNITS
$I_{T(AV)}$ or $I_{F(AV)}$	85 °C	110	A
I_{TSM} , I_{FSM}	50 Hz 60 Hz	1150 1230	
i^2t	50 Hz 60 Hz	6600 6280	A ² s
V_{RRM}	Range	1200 to 1600	V
T_{Stg}		- 40 to 125	°C
T_J			

ELECTRICAL SPECIFICATIONS

VOLTAGE RATINGS					
TYPE NUMBER	VOLTAGE CODE	V_{RRM} , MAXIMUM REPETITIVE PEAK REVERSE VOLTAGE V	V_{RSM} , MAXIMUM NON-REPETITIVE PEAK REVERSE VOLTAGE V	V_{DRM} , MAXIMUM REPETITIVE PEAK OFF-STATE VOLTAGE, GATE OPEN CIRCUIT V	I_{RRM} , I_{DRM} AT 125 °C mA
MSTP	12	1200	1300	1200	10
	14	1400	1500	1400	
	16	1600	1700	1600	

ON-STATE CONDUCTION					
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS
Maximum average on-state current (thyristors)	$I_{T(AV)}$	180° conduction, half sine wave,		110	A
Maximum average forward current (diodes)	$I_{F(AV)}$	$T_C = 85\text{ °C}$			
Maximum peak, one-cycle non-repetitive on-state or forward current	I_{TSM} or I_{FSM}	$t = 10\text{ ms}$	$T_J = 25\text{ °C}$, no voltage reapplied	1150	
		$t = 8.3\text{ ms}$		1230	
Maximum I^2t for fusing	I^2t	$t = 10\text{ ms}$		6600	A ² s
		$t = 8.3\text{ ms}$		6280	
Forward voltage	V_T V_F	$I_T = 200\text{A}$ $I_F = 200\text{A}$	$T_J = 25\text{ °C}$	1.7	V
Maximum holding current	I_H	$T_J = 25\text{ °C}$, anode supply = 6 V, resistive load, gate open circuit		200	mA
Maximum latching current	I_L	$T_J = 25\text{ °C}$, anode supply = 6 V, resistive load		400	

TRIGGERING					
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS
Maximum gate voltage required to trigger	V_{GT}	$T_J = 25\text{ °C}$	Anode supply = 6 V resistive load	1.5	V
Maximum gate current required to trigger	I_{GT}			100	mA

BLOCKING					
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS
Maximum peak reverse and off-state leakage current at V_{RRM} , V_{DRM}	I_{RRM} , I_{DRM}	$T_J = 125\text{ °C}$, gate open circuit		10	mA
Maximum RMS insulation voltage	V_{INS}	50 Hz ,circuit to base, all terminals shorted		2500 (1 min) 3500 (1 s)	V
Maximum critical rate of rise of off-state voltage	dV/dt	$T_J = 125\text{ °C}$, linear to $0.67 V_{DRM}$		1000	V/ μ s

THERMAL AND MECHANICAL SPECIFICATIONS					
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS
Junction operating and storage temperature range	T_J , T_{stg}			- 40 to 125	°C
Maximum internal thermal resistance, junction to case per leg	R_{thJC}	DC operation		0.65	K/W
Typical thermal resistance, case to heatsink per module	R_{thCS}	Mounting surface flat, smooth and greased		0.108	
Mounting torque $\pm 15\%$		A mounting compound is recommended and the torque should be rechecked after a period of 3 hours to allow for the spread of the compound.		5	Nm
Approximate weight				265	g
				9.3	oz.