

PASSIVATED ASSEMBLED CIRCUIT ELEMENTS 50 A

Features

1. Electrically isolated base plate
2. Voltage rating up to 1600V
3. Glass passivated junctions for greater reliability
4. High dynamic characteristics
5. Simplified mechanical design and assembly
6. Wide choice of circuit configurations

Ordering code

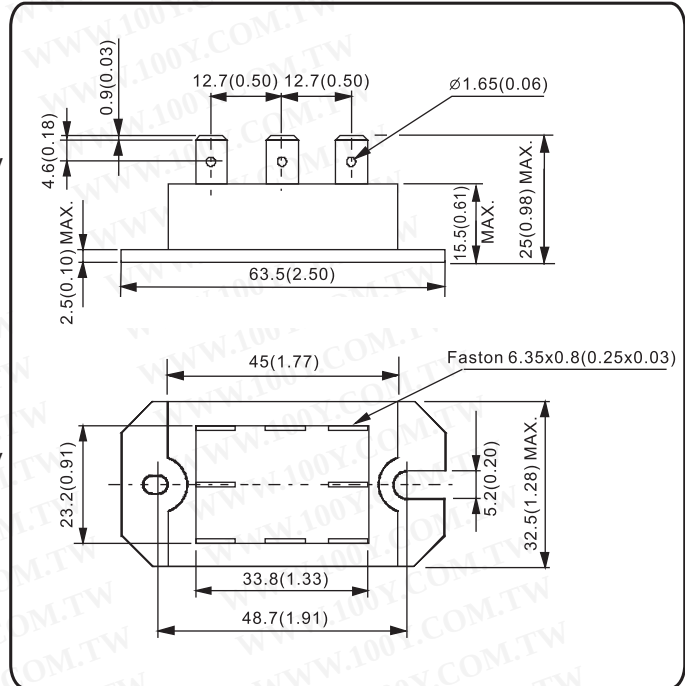
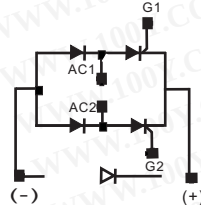
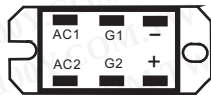
NP	50	5	W
(1)	(2)	(3)	(4)

(1) For Passivated Assembled Modules

(2) Maximum average forward current, A

(3) ①=400V : ②=800V : ③=1000V : ④=1200V : ⑤=1600V

(4) Basic series



Electrical Characteristics

Parameter	Condition	Max. Value	Unit
$I_T(AV)$	Max. Average on-state current 180° half sine wave, 50 Hz Single side cooled, $T_C=85^\circ C$	50	A
I_{FSM}	Non-repetitive on-state or forward current $t=10ms$	600	A
V_{RRM} V_{DRM}	Max. repetitive peak reverse voltage	400 to 1600	V
I_{RRM} I_{DRM}	Repetitive peak reverse current $V_R = V_{RRM}$	10	mA
I_{TSM}	Max. peak, one-cycle, on-state non-repetitive surge current $t=10ms$	715	A
I_t^2	Max. Permissible surge energy	900	A ² S
V_{TM}	Max. Forward voltage drop	1.4	V
$V_{T(TO)}$	Value of threshold voltage	0.83	V
r_{t1}	On-state slope resistance	9.61	mΩ
I_{GD}	Max. Required DC gate current to trigger	60	mA
V_{GT}	Max. Required DC gate voltage to trigger	2	V
I_H	Max. Holding current	130	mA
V_{GD}	Max. Gate voltage which will not trigger any devices	0.20	V
d_v/dt	Critical rate of rise of off-state voltage $V_{DM} = 0.67 V_{DRM}$	200	V/us
d_i/dt	Max. Rate of rise of turned-on current Gate drive 20V, 20Ω, $t_r \leq 0.5 us$	200	A/us
T_{stg}	Storage temperature range	-40 to 125	°C
$R_{th(J-C)}$	Max. Thermal resistance Single side cooled	1.05	K/W
W_t	Approximate weight	58	g
T	Module to heatsink (M6)	4	Nm

