

Feature

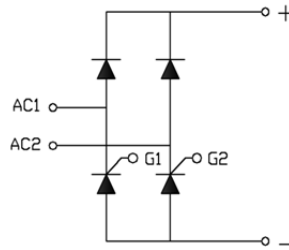
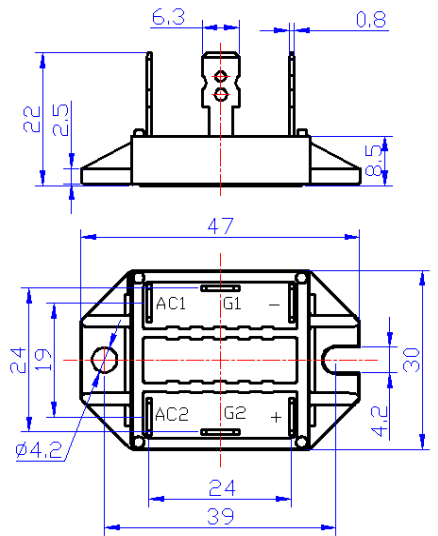
- low forward voltage drop
- DCB board

Application

- Power supply for DC power equipment
- Input rectifier for PWM convertor

Advantage

- Easy mounting
- Small volume, light weight
- Small thermal resistance, low Temperature rise



Maximum value

Symbol	Parameter	Rating		unit
		PFQB50-12	PFQB50-16	
V_{RRM}	Peak reverse repetitive voltage	1200	1600	V
V_{RSM}	Peak reverse non-repetitive voltage	1300	1700	V
V_{DRM}	Peak off-state repetitive voltage	1200	1600	V

Symbol	Parameter	Test condition	Rating	Unit
I_o	Average on-state current	Single-phase full-wave rectifying circuit $T_c:85^\circ\text{C}$	50	A
$I_{T(RMS)}, I_{F(RMS)}$	Forward RMS current	10ms sin half wave, T_j	400	A
I_t^2	I_t^2 value	$V_R = 0.6V_{RRM}, T_j$	800	A ² S
P_{GM}	Peak gate power		10	W
$P_{G(AV)}$	Average gate power		0.5	W
di/dt	On-state current critical rise rate	$I_{GM}=1.5A, t_r \leq 0.5\mu\text{s}, T_j=25^\circ\text{C}$	150	A/ μs
V_{ISO}	Isolation voltage	AC one minute	2500	V
T_j	Operating junction temperature		-40 to +125	$^\circ\text{C}$
T_{jm}	Rated junction temperature		125	$^\circ\text{C}$
T_{stg}	Storage temperature		-40 to +125	$^\circ\text{C}$
W_t	Weight		13	g

Electrical characteristics

Symbol	Parameter	Test condition	Rating	Unit
I_{DRM}	Peak off-state repetitive current	One-side heat-dissipation, $V_D=V_{DRM}$, sine half wave, $T_j=125^\circ\text{C}$	3	mA
I_{RRM}	Peak reverse repetitive current	One-side heat-dissipation, $V_R=V_{RRM}$, sine half wave, $T_j=125^\circ\text{C}$	3	mA
V_{TM} / V_{FM}	Peak forward voltage	$I_{TM} / I_{FM}=17.5A, T_j=25^\circ\text{C}$	1.2/1.1	V
V_{GT}	Gate trigger voltage	$T_j=25^\circ\text{C}, I_T=1A, V_D=12V$	0.7-1.5	V
I_{GT}	Gate trigger current	$T_j=25^\circ\text{C}, I_T=1A, V_D=12V$	20-80	mA
V_{GD}	Gate non-trigger voltage	$T_j=125^\circ\text{C}, V_D=2/3V_{DRM}$	0.2	V
I_{GD}	Gate non-trigger current	$T_j=125^\circ\text{C}, V_D=2/3V_{DRM}$	10	mA
dv/dt	On-state voltage critical rise rate	$T_j=125^\circ\text{C}, V_D=2/3V_{DRM}$	500	V/ μs
I_H	Holding current	$T_j=25^\circ\text{C}$	20-100	mA
I_L	Latching current	$T_j=25^\circ\text{C}$	100-400	mA
$R_{th(j-c)}$	Thermal impedance (junction-case)	One-side heat dissipation, sine half wave	0.22	$^\circ\text{C/W}$