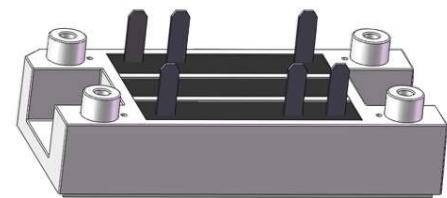


Anti-parallel Module

Description

- 1) A package consists of two inverse parallel SCR chips, which non-repetitive peak off-state voltage is up to 2300V
- 2) Welding by vacuum welding technology, which provide high reliability
- 3) Insulated by silicone gel, provide a insulation voltage of 3000V~



V1-A-Pack

Typical Application

Soft start, solid state relay, AC/DC switch, temperature control.

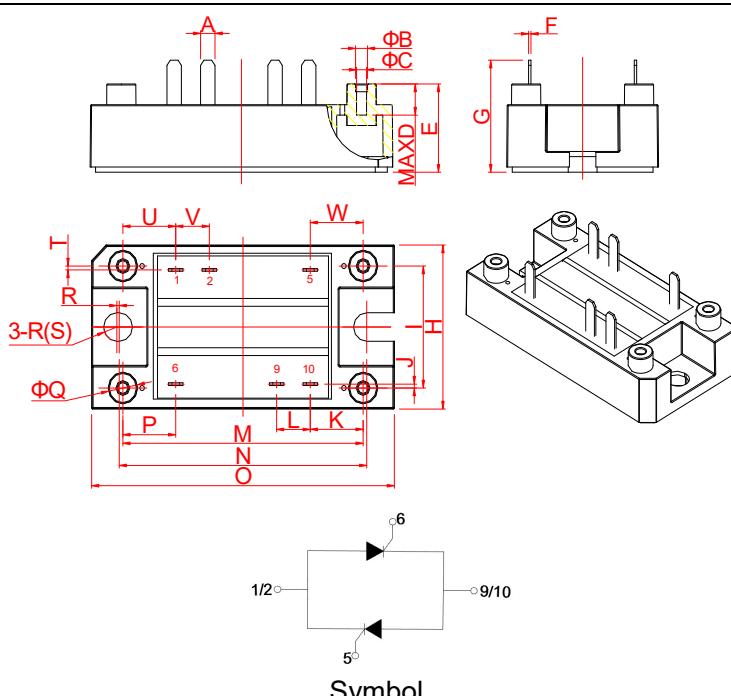
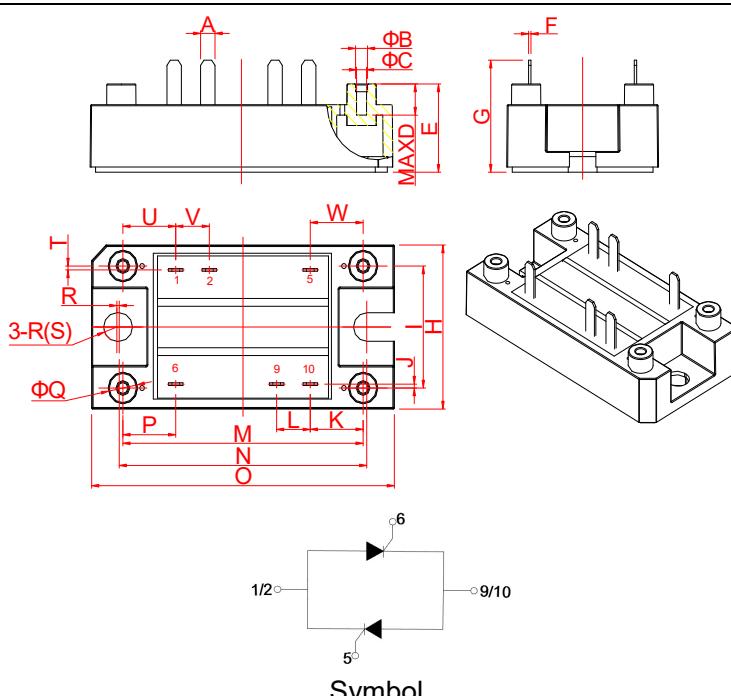
Absolute Maximum Ratings (Packaged into V1-A-Pack, unless otherwise specified, $T_{CASE}=25^{\circ}\text{C}$)

Parameter	Test Conditions	Symbol	Values			Unit
			18	20	22	
Operating junction temperature range		T_j	-40-125			°C
Storage temperature range		T_{stg}	-40-125			°C
Repetitive peak off-state voltage	$T_j=25^{\circ}\text{C}$	V_{DRM}	1800	2000	2200	V
Repetitive peak reverse voltage	$T_j=25^{\circ}\text{C}$	V_{RRM}	1800	2000	2200	V
Non-repetitive peak off-state voltage	$T_j=25^{\circ}\text{C}$	V_{DSM}	1900	2100	2300	V
Non-repetitive peak reverse voltage	$T_j=25^{\circ}\text{C}$	V_{RSM}	1900	2100	2300	V
RMS on-state current	$T_C=85^{\circ}\text{C}$	$I_{T(RMS)}$	120			A
Peak on-state surge current	$t_P=10\text{ms } V_R=0.6V_{RRM}$	I_{TSM}	1200			A
I^2t value for fusing	$t_P=10\text{ms } V_R=0.6V_{RRM}$	I^2t	7200			A^2s
Critical rate of rise of on-state current	$I_G=2 \times I_{GT}$	dI/dt	150			$\text{A}/\mu\text{s}$
Insulation voltage	A.C 50Hz(1s/1min)	V_{ISO}	3600/3000			V

Electrical Characteristics (Packaged into V1-A-Pack, unless otherwise specified, $T_{CASE}=25^\circ\text{C}$)

Parameter	Test Conditions	Symbol	Values	Unit
Peak on-state voltage	$I_T=240\text{A}$ $t_P=380\mu\text{s}$	V_{TM}	≤ 1.8	V
Threshold voltage	$T_j=125^\circ\text{C}$	V_{TO}	≤ 0.95	V
Dynamic resistance	$T_j=125^\circ\text{C}$	R_d	≤ 2.1	$\text{m}\Omega$
Repetitive peak off-state current	$V_D=V_{RRM}$ $T_c=25^\circ\text{C}$ $T_c=125^\circ\text{C}$	I_{DRM1} I_{DRM2}	≤ 100 ≤ 30	μA mA
Repetitive peak reverse current	$V_R=V_{RRM}$ $T_c=25^\circ\text{C}$ $T_c=125^\circ\text{C}$	I_{RRM1} I_{RRM2}	≤ 100 ≤ 30	μA mA
Triggering gate current	$V_D=12\text{V}$ $R_L=30\Omega$	I_{GT}	20-120	mA
Holding current	$I_T=1\text{A}$	I_H	≤ 250	mA
Latching current	$I_G=1.2 I_{GT}$	I_L	≤ 300	mA
Triggering gate voltage	$V_D=12\text{V}$ $R_L=30\Omega$	V_{GT}	≤ 1.8	V
Non triggering gate voltage	$V_D=V_{DRM}$ $T_j=125^\circ\text{C}$	V_{GD}	≥ 0.25	V
Critical rate of rise of voltage	$V_D=2/3V_{DRM}$ $T_j=125^\circ\text{C}$ Gate Open	dv/dt	≥ 1000	$\text{V}/\mu\text{s}$
Thermal resistance	Junction to case	$R_{th(j-c)}$	0.37	$^\circ\text{C}/\text{W}$

Mechanical Characteristics

Module size	63x31.6mm																																																																																																																																																																															
Module height	21.6mm																																																																																																																																																																															
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Ordering Information

AK

121

KQ

-22

Aiko Electronics Technology Co., LTD

$I_{T(RMS)}=120A$

$18: V_{DSM}/V_{RSM} \geq 1900V$

$20: V_{DSM}/V_{RSM} \geq 2100V$

$22: V_{DSM}/V_{RSM} \geq 2300V$

Module of anti-parallel of SCRs