

## Anti-parallel Module

### Description

- 1) A package consists of two inverse parallel SCR chips, which rated voltage is up to 1800V
- 2) Welding by vacuum welding technology, which provide high reliability
- 3) Insulated by silicone gel, provide a insulation voltage of 3000V~



### Typical Application

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

### Absolute Maximum Ratings (Packaged into modules, unless otherwise specified, $T_{CASE}=25^{\circ}C$ )

Parameter	Test Conditions	Symbol	Values	Unit
Operating junction temperature range		$T_J$	-40-125	$^{\circ}C$
Repetitive peak off-state voltage	$T_J=25^{\circ}C$	$V_{DRM}$	1200/1600/1800	V
Repetitive peak reverse voltage	$T_J=25^{\circ}C$	$V_{RRM}$	1200/1600/1800	V
RMS on-state current	$T_C=80^{\circ}C$	$I_{T(RMS)}$	70	A
Peak on-state surge current	$t_p=10ms$ $V_R=0.6V_{RRM}$	$I_{TSM}$	700	A
$I^2t$ value for fusing	$t_p=10ms$ $V_R=0.6V_{RRM}$	$I^2t$	2450	$A^2s$
Critical rate of rise of on-state current	$I_G=2 \times I_{GT}$	di/dt	150	$A/\mu s$

**Electrical Characteristics** (Packaged into modules, unless otherwise specified,  $T_{CASE}=25^{\circ}C$ )

Parameter	Test Conditions	Symbol	Values	Unit
Peak on-state voltage	$I_T=105A$ $t_p=380\mu s$	$V_{TM}$	$\leq 1.8$	V
Threshold voltage	$T_J=125^{\circ}C$	$V_{TO}$	$\leq 0.9$	V
Dynamic resistance	$T_J=125^{\circ}C$	$R_d$	$\leq 8$	m $\Omega$
Repetitive peak off-state current	$V_D=V_{RRM}$ $T_C=25^{\circ}C$	$I_{DRM1}$	$\leq 50$	$\mu A$
	$T_C=125^{\circ}C$	$I_{DRM2}$	$\leq 15$	mA
Repetitive peak reverse current	$V_R=V_{RRM}$ $T_C=25^{\circ}C$	$I_{RRM1}$	$\leq 50$	$\mu A$
	$T_C=125^{\circ}C$	$I_{RRM2}$	$\leq 15$	mA
Triggering gate current	$V_D=12V$ $R_L=30\Omega$	$I_{GT}$	20-120	mA
Holding current	$I_T=1A$	$I_H$	$\leq 150$	mA
Latching current	$I_G=1.2I_{GT}$	$I_L$	$\leq 250$	mA
Triggering gate voltage	$V_D=12V$ $R_L=30\Omega$	$V_{GT}$	$\leq 1.5$	V
Non triggering gate voltage	$V_D=V_{DRM}$ $T_J=125^{\circ}C$	$V_{GD}$	$\geq 0.2$	V
Critical rate of rise of voltage	$V_D=2/3V_{DRM}$ $T_J=125^{\circ}C$ Gate Open	$dv/dt$	$\geq 1000$	V/ $\mu s$
Thermal resistance	Junction to case	$R_{th(j-c)}$	0.8	$^{\circ}C/W$

**Mechanical Characteristics**

Module size	31×24mm
Module height	14.73mm

**Ordering Information**

<p><b>AK</b></p> <p>Aiko Electronics Technology Co., LTD</p>	<p><b>70</b></p> <p><math>I_T(RMS)=70A</math></p>	<p><b>KQ</b></p> <p>Module of anti-parallel of SCRs</p>	<p><b>-12</b></p> <p>12: <math>V_{DRM}/V_{RRM} \geq 1200V</math>          16: <math>V_{DRM}/V_{RRM} \geq 1600V</math>          18: <math>V_{DRM}/V_{RRM} \geq 1800V</math></p>
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