

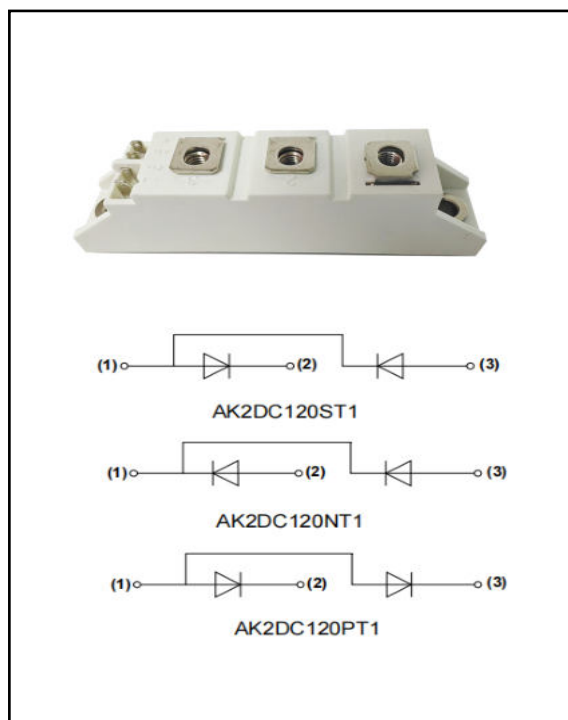
Diode Module

Description

- 1) A package of series of two diodes.
- 2) Heat transfer through alumina ceramic and metal substrate.
- 3) Welding by vacuum welding technology, which provide high reliability.

Typical Application

AC converter, inverter and DC motor.



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

Parameter	Test Conditions	Symbol	Values				Unit
			12	16	18	20	
Operating junction temperature range		T_J	-40-150				$^{\circ}\text{C}$
Storage temperature range		T_{STG}	-40-125				$^{\circ}\text{C}$
Repetitive peak reverse voltage	$T_J=25^{\circ}\text{C}$	V_{RRM}	1200	1600	1800	2000	V
Non-repetitive peak reverse voltage	$T_J=25^{\circ}\text{C}$	V_{RSM}	1300	1700	1900	2100	V
Average on-state current	$T_C=100^{\circ}\text{C}$	$I_{F(AV)}$	120				A
Peak on-state surge current	$T_J=25^{\circ}\text{C}$, $t_P=10\text{ms}$, $\sin 180^{\circ}$	I_{FSM}	3360				A
I^2t value for fusing		I^2t	56400				A^2s
Insulation voltage	A.C 50Hz(1s/1min)	V_{ISO}	3600/3000				V

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

Parameter	Test Conditions	Symbol	Values	Unit
Peak on-state voltage	$I_F=360A$ $t_P=380\mu s$	V_F	≤ 1.6	V
Threshold voltage	$T_J=150^{\circ}C$	V_{TO}	≤ 0.85	V
Dynamic resistance	$T_J=150^{\circ}C$	R_d	≤ 1.5	m Ω
Repetitive peak reverse current	$V_R=V_{RRM}$ $T_J=25^{\circ}C$	I_{RRM1}	≤ 100	μA
	$T_J=150^{\circ}C$	I_{RRM2}	≤ 40	mA
Thermal resistance	Junction to case	$R_{th(j-c)}$	0.29	$^{\circ}C/W$
	Case to heatsink	$R_{th(c-s)}$	0.12	

Performance Curves

FIG.1: Forward characteristics(per diode)

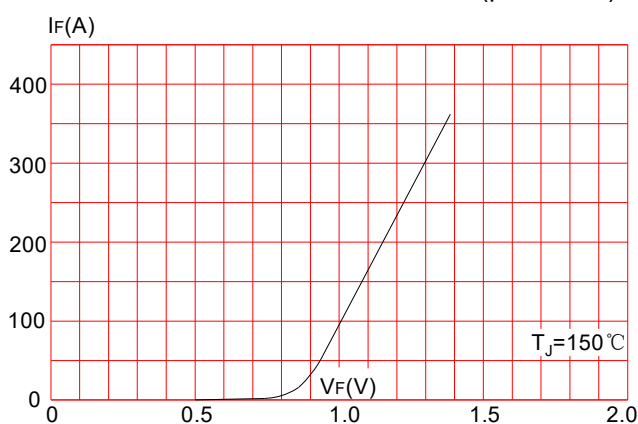


FIG.3: Forward current vs. case temperature

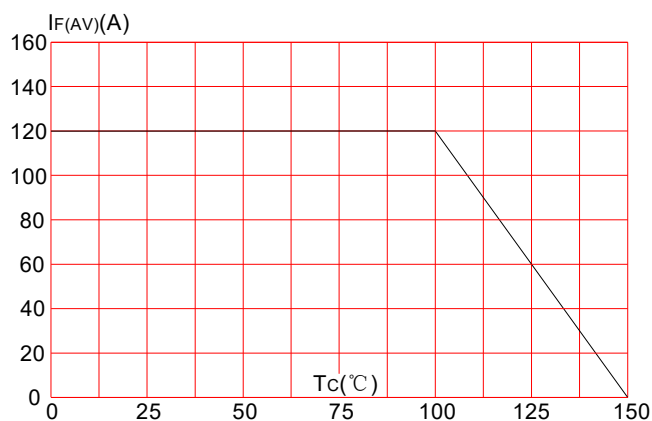


FIG.2: Peak on-state surge current

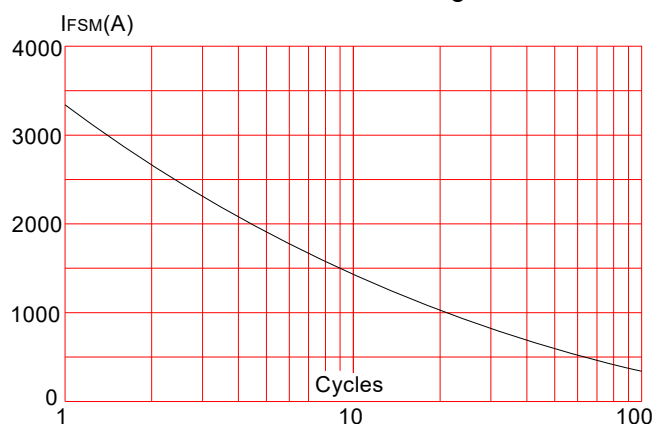
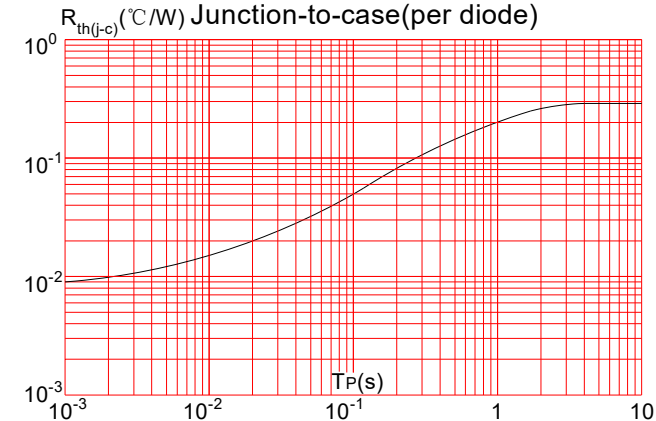
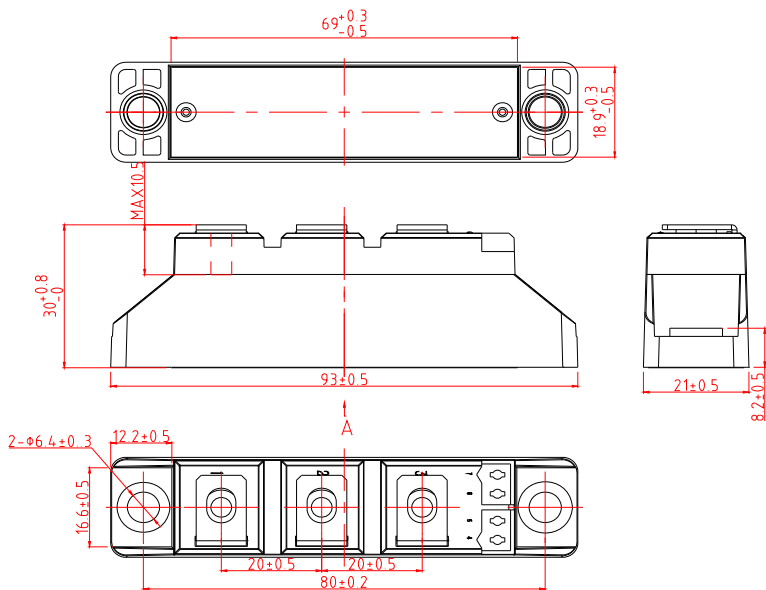
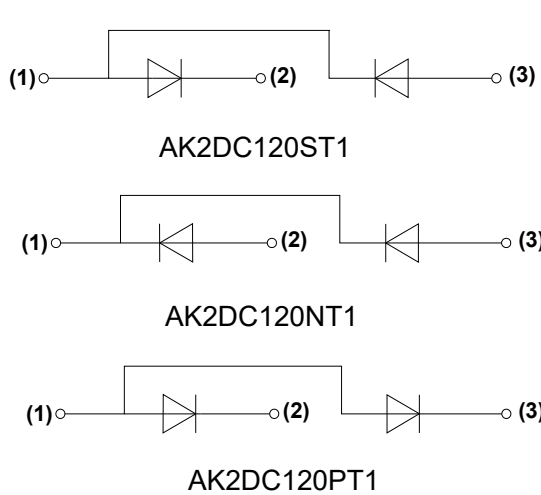


FIG.4: Maximum transient thermal impedance



Mechanical Characteristics

Module size	93mm×21mm
Module height	30mm
Terminal distance of (1)/(2)/(3)	20mm
Mounting torque(M5)	5±15%Nm
Terminal torque(M5)	3±15%Nm
 T1	 AK2DC120ST1 AK2DC120NT1 AK2DC120PT1