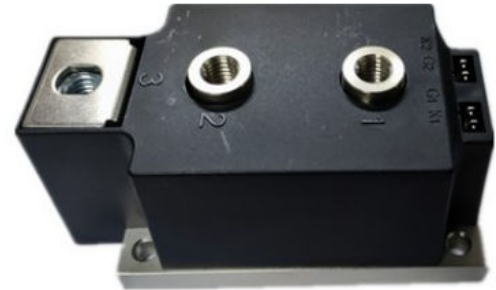


## Thyristor Modules

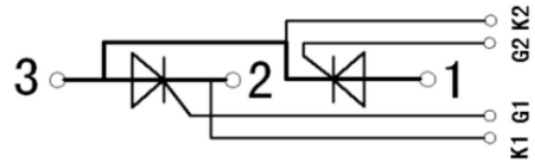
### Features

- Blocking voltage: 1600V
- Industrial standard package
- Thick copper baseplate
- 2500 V<sub>RMS</sub> isolating voltage



### Typical Applications

- Power Converters
- DC motor Control and Drives
- Temperature control
- Lighting control



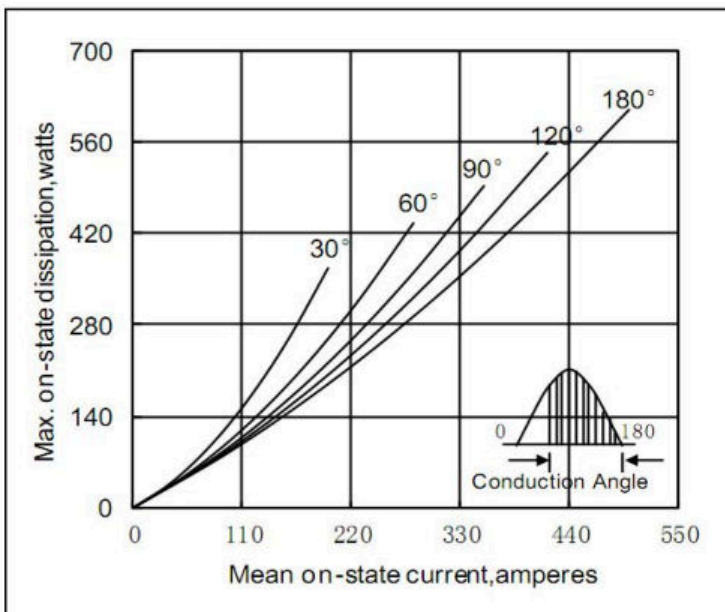
Module Type		
Type	V <sub>DRM</sub>	V <sub>RSM</sub>
JKT500-16	1600V	1700V

Maximum Ratings				
Parameters	Symbol	Test Conditions	Values	Unit
Average On-State Current	I <sub>TAV</sub>	Sine 180°C; T <sub>C</sub> =85°C	500	A
Surge forward current	I <sub>TSM</sub>	t=10ms T <sub>J</sub> =45°C	14500	A
Maximum I <sup>2</sup> t for fusing	I <sup>2</sup> t	t=10ms T <sub>J</sub> =45°C	1051	KA <sup>2</sup> s
Isolation Breakdown Voltage(R.M.S)	Visol	A <sub>C</sub> 50Hz; R.M.S.; 1min	2500	V
		Ac.50Hz; R.M.S; 1sec	3500	V
Operating Junction Temperature	T <sub>J</sub>		-40~+125	°C
Storage Temperature	T <sub>stg</sub>		-40~+125	°C
Mounting Torque	Mt	To terminals(M8)	12± 10%	Nm
	Ms	To heatsink(M6)	6± 10%	
Maximum non-repetitive rate of rise of turned on current	di/dt	T <sub>J</sub> =25°C from 0.67V <sub>DRM</sub> , I <sub>TM</sub> = π × I <sub>T(AV)</sub> ,I <sub>g</sub> =500mA tr<0.5us tp>6us	150	A/us
Maximum critical rate of rise of off-state voltage	dv/dt	T <sub>J</sub> =125°C, V <sub>D</sub> =2/3V <sub>DRM</sub>	1000	V/us

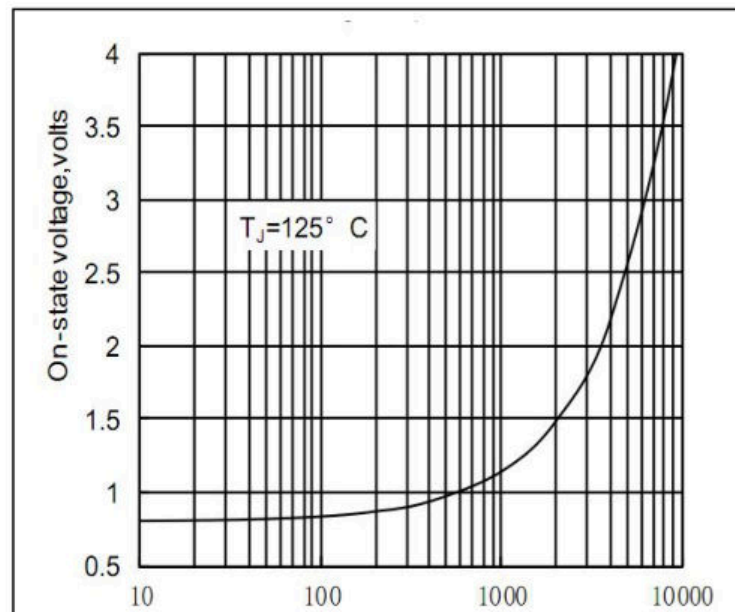
Electrical Characteristics						
Parameters	Symbol	Test Conditions	Values			Unit
			Min.	Typ.	Max.	
Maximum Peak On-State Voltage	$V_{TM}$	$I_{TM} = \pi \times I_{T(AV)}, T_J=25^\circ C$			1.55	V
Maximum Repetitive Peak Reverse Current/ Maximum Repetitive Off-state Current	$I_{RRM}/ I_{DRM}$	$T_J=125^\circ C, V_{RD}=V_{RRM}$			35	mA
Maximum gate voltage required to trigger	$V_{GT}$	$T_J=25^\circ C, V_D=6V$	0.8		2.2	V
Maximum gate current required to trigger	$I_{GT}$	$T_J=25^\circ C, V_D=6V$	30		150	mA
Maximum Latching current	$I_L$	$T_J=25^\circ C, I_G=1.2I_{GT}$			1000	mA
Maximum Holding current	$I_H$	$T_J=25^\circ C, I_T=1A$	20		200	mA

Thermal Characteristics				
Parameters	Symbol	Test Conditions	Values	Unit
Maximum internal thermal resistance, junction to case	$R_{th(J-C)}$	Per module	0.065	$^\circ C/W$
Typical thermal resistance, case to heatsink	$R_{th(C-S)}$	Per module	0.024	$^\circ C/W$

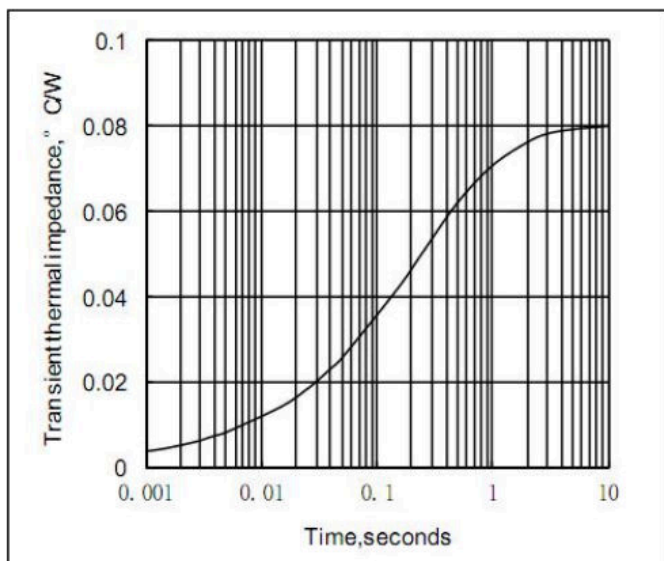
**Performance Curves**



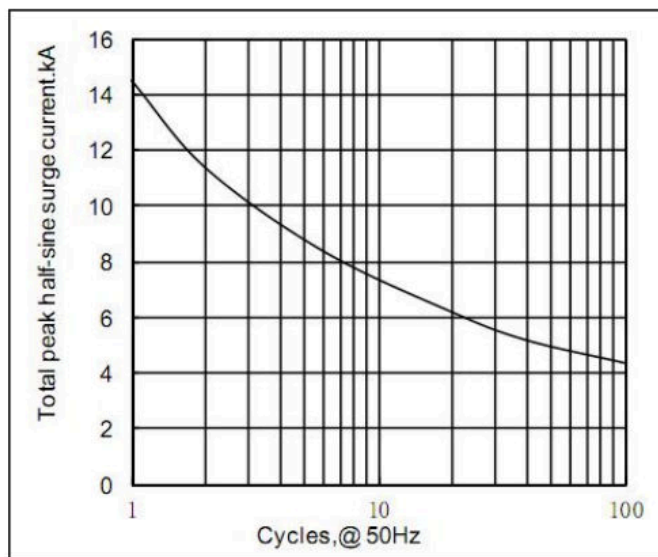
**Fig1. Power dissipation**



**Fig2. Forward Characteristics**



**Fig3. Transient thermal impedance**



**Fig4. Max Non-Repetitive Forward Surge Current**

**Ordering Information Tabel**

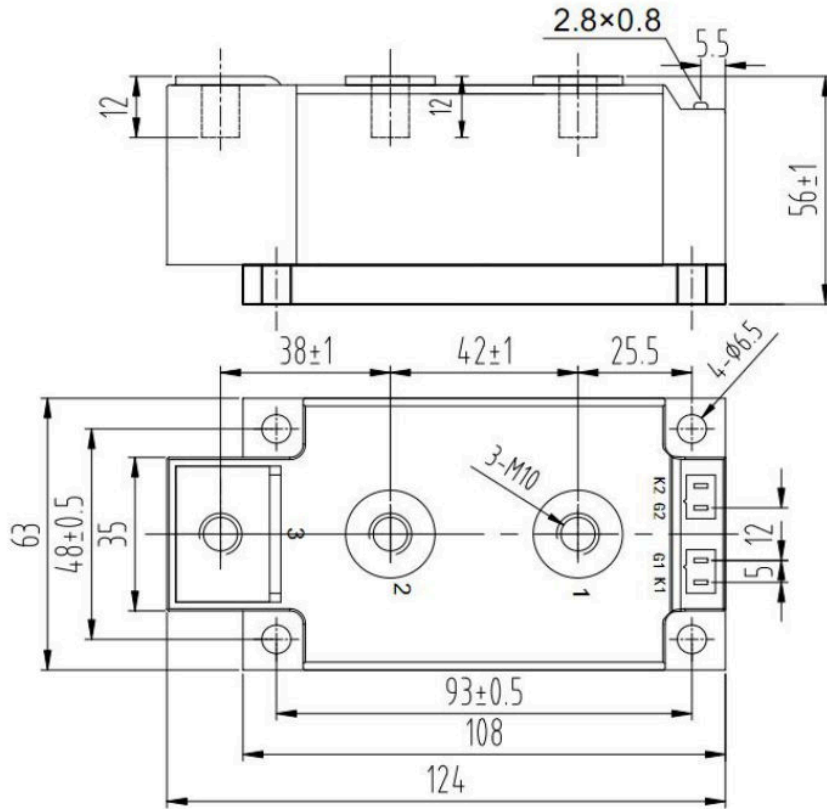
Device code

<b>J</b>	<b>KT</b>	<b>500</b>	<b>-</b>	<b>16</b>
①	②	③		④

- ① JBY's power module
- ② Circuit configuration
- ③ Maximum average forward current, A
- ④ Voltage code 1600V

**Package Outline Information**

**CASE:**



**Dimensions in mm**