

TECHSEM's Overseas Representative

As the exclusive overseas marketing partner of TECHSEM, R&D Electronics International Co., Limited takes over all the marketing and sales activities for the world market.



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Power the Future
China-based Supplier for the Whole Product Series!

TECH SEMICONDUCTORS CO., LTD.

No. 162 Shengli Street, Xiangyang city,
Hubei Province, China 441021
Tel: +86 710 3506209
Email: trade@tech-sem.com



TECH SEMICONDUCTORS CO.,LTD.

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Profile

1966,founded factory,produced diode & transistor.
 1974,successfully produced the first thyristor in China.
 1980,established new plant for special IC and high power transistors.
 1988,research and develop power semiconductor modules.
 2003,complete the privatization reform.
 2008,founded a joint-venture company.
 2010,listed on Growth Enterprise Board,Stock Code:300046.
 48 years experience in development and production of power semiconductors.

Tech Semiconductors Co., Ltd. (TECHSEM), established in 1966, is a specialized manufacturer in developing, producing and selling power semiconductor devices.

The products of TECHSEMTM, which are famous for its whole product series, high quality, good service reputation, are sold well in domestic market and have been exported to Europe, U.S, Korea, Japan, India, Taiwan, Southeast Asia and other countries and regions.

With hills surrounding and fine scenery, the company is located in the famous Xiangyang city which is an ideal site for producing power semiconductor devices. With more than 50 years experience of semiconductor devices manufacturing, TECHSEM has two purification buildings of over 8000m2, in which 1000m2 of 100 class cleaning room. Over 720 staffs work in the company, of which 136 are specialized engineers (6 engineering masters, 32 senior engineers,). TECHSEM has great advantages in technology and production capability.

TECHSEM has a perfect and effective market net covering throughout China with nearly 200 distributors and 60 sole agents. In recent years, production capability of thyristors and modules stays on the first place and sales income stays in the first three places in domestic market.

TECHSEM is pushing on the target of to be the leading competitive supplier for power semiconductors.

TECHSEM sincerely hopes to establish concrete and honest business relationship with friends to get mutually benefit and reach a bright future.



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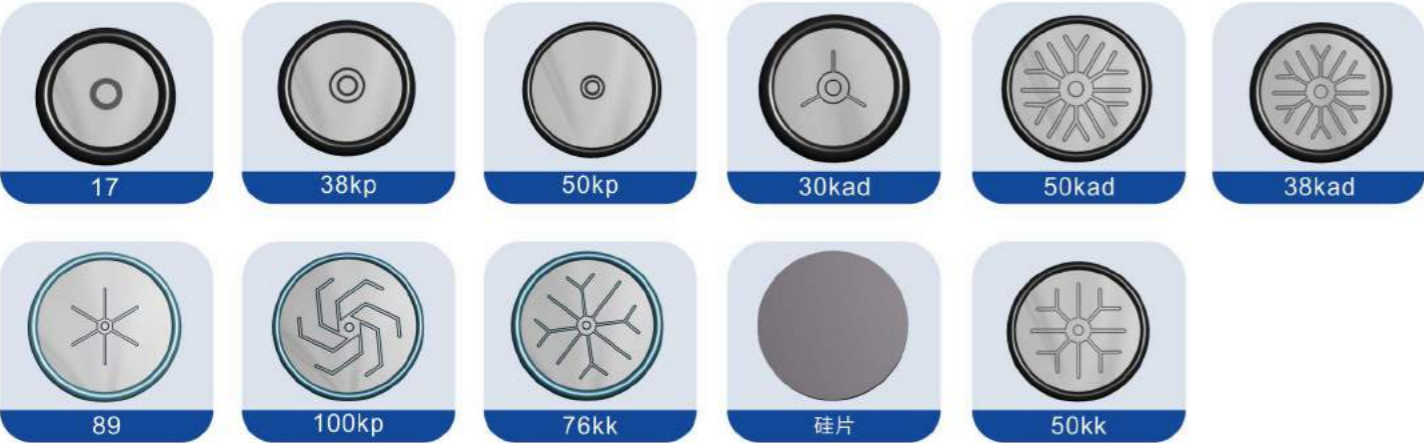
Wafers

Size: 1.5-6 inches
Voltage: 400-7200V
Wafers: phase control thyristor, fast turn-off thyristor, rectifier diode, fast recovery diode



Chips

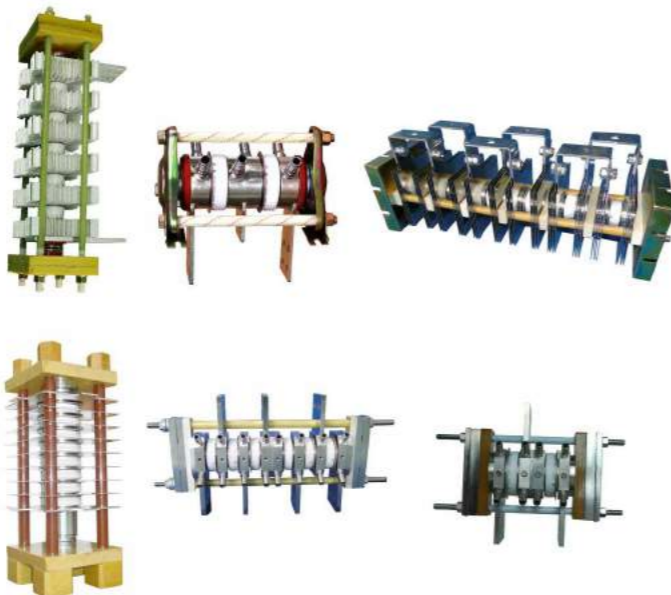
Size: 1.5-5 inches
Current: 25-7200A
Voltage: 400-8000V
Chips: phase control thyristor, fast turn-off thyristor, rectifier diode, fast recovery diode







Capsule Device (Thyristors / Diodes)


Phase Control Thyristors				Code Designation	
Symbol	Range	Features	Typical Applications	<div>50 KK E</div> <div>Y</div> <div>Voltage characteristic code</div> <div>Product mode code</div> <div>Chip diameter code</div> <div>Product sequence code</div> <div>KP:Phase Control Thyristors</div> <div>KK:Fast Turn-Off Thyristors</div> <div>KA:Hing Frequency Thyristors</div> <div>KS:BI-directional Control Thyristors</div> <div>ZP:Rectifier Diodes</div> <div>ZK:Fast Recovery Diodes</div> <div>DS:Reversely Switching Dynistors</div> <div>KM:Pulse Power Thyristors</div>	
Current	320-6400A	1.Amplifying gates	1.High power industrial and power transmission		
Voltage	200-7200V	2.Internatinsulators ional standard cases	2.DC and AC motor control		
Surge current	8-72KA	3.Hermetic metal cases with ceramic	3.Controlled rectifiers		
Fast Turn-Off Thyristors					
Symbol	Range	Features	Typical Applications		
Current	490-4890A	1.Interdigitated amplifying gates	1.Inductive heating		
Voltage	800-4800V	2.Fast turn-on and high di/dt	2.Electronic welders		
Turn-off time	18-150μS	3.Low switching losses	3.Self-commutated inverters		
Hing Frequency Thyristors				Outline	
Symbol	Range	Features	Typical Applications		
Current	490-1730A	1.Interdigitated amplifying gates	1.Inductive heating		
Voltage	600-1600V	2.Fast turn-on and high di/dt	2.Electronic welders		
Turn-off time	5-36μS	3.Low switching losses	3.Self-commutated inverters		
Outline	Capsule Housing	4.Short turn-off time	4.AC motor speed control		
BI-directional Control Thyristors				Outline	
Symbol	Range	Features	Typical Applications		
Current	520-930A	1.International standard cases	1.High power industrial and power transmission		
Voltage	500-1800V	2.Hermetic metal cases with ceramic insulators	2.DC and AC motor control		
Surge Current	5-8.8KA	3.Capsule packages for double sided cooling	3.AC controlsollers		
Outline	capsule housing		4.Soft starters for induction motor		
Non Symmetric Fast Turn-Off Thyristors				Outline	
Symbol	Range	Features	Typical Applications		
Blocking Voltage	1800-2500A	1.Fast turn-on and high di/dt	Applicable to series resonant inverter power supply		
Backward Voltage	200-1000V	2.Low switching losses			
Surge Current	30KA				
Outline	Capsule Housing				

Heatsink / Assembly

Pulsed Power Device										
Features					Typical Applications					
1.Interdigitated amplifying gates					Pulsed power assembly					
2.Fast turn-on and high di/dt										
3.Low switching losses										
Type	IPK	VDRM	VDRM	di/dt ability		di/dt	Tjm	Mounting Force	Outline	
	tp0.3~2ms			di/dt	IPK					
	kA			A/ μ s	kA					V/μs
Voltage to 4500V										
T100KPJ	140	4000	4000	1500	140	1000	90	90~113		
H100KMM	150	4200	4200	2000	150	1000	100	90~113		
H125KMM	200	4500	4500	2000	200	1000	100	90~120		
Voltage to 5200V										
H125KMN	150	5000	5000	1500	150	1000	100	90~120		
Pulse Power Assembly										
Features					Outline					
<p>Pulse power semiconductor devices and assembly, 10-300KA, 10-40KV, have advantages with large surge current, fast turn-on, high di/dt, etc. As per different application at customers, special pulse thyristor, super fast semiconductor devices can be designed in assembly structures which could provide whole electrical functions including trigger, protection etc. Special pulse assembly solution can be provided according to customers application conditions and requirements.</p> <p>Application: environment protection facility, laser facility, electromagnetic drive, etc.</p>										

Module

Thyristor Modules				
Symbol	Range	Features	Typical Applications	Outline
Current	26-1200A	1.Isolated mounting base, 2500V-3600V 2.International standard package 3.Pressure contact technology with increased power cycling capability 4.Air-cooling or water-cooling 5.Simple mounting and easy maintenance 6.Space and weight saving	1.AC/DC Motor drives 2.Various rectifiers 3.Contactless switches 4.Soft start AC motor control 5.Welding power supply 6.DC supply for PWM inverter 7.Battery DC chargers or discharge	
Voltage	600-3600V			
Surge current	0.65-34KA			
Outline	See Outline			
Diode Modules				
Symbol	Range	Features	Typical Applications	Outline
Current	26-1200A	1.Isolated mounting base,2500V -3600V 2.International standard package 3.Pressure contact technology with increased power cycling capability 4.Air-cooling or water-cooling 5.Simple mounting and easy maintenance 6.Space and weight saving	1.AC/DC Motor drives 2.Various rectifiers 3.Soft start AC motor control 4.(TSC)SVC 5.Welding power supply 6.DC supply for PWM inverter	
Voltage	600-3600V			
Surge current	0.65-34KA			
Outline	See Outline			
Fast Turn-off Thyristor/Fast Recovery Diode Modules				
Symbol	Range	Features	Typical Applications	Outline
Current	75-400A	1.Isolated mounting base, 2500V~ 2.International standard package 3.Pressure contact technology with increased power cycling capability 4.Simple mounting and easy maintenance 5.Space and weight saving	1.Inverter 2.Inductive heating 3.Chopp	
Voltage	600-1600V			
Surge Current	15-35μS			
Outline	See Outline			
Fast Recovery Diode Modules				
Symbol	Range	Features	Typical Applications	Outline
Current	75-400A	1.Isolated mounting base, 2500V~ 2.International standard package 3.Pressure contact technology with increased power cycling capability 4.Simple mounting and easy maintenance 5.Space and weight saving	1.Inverter 2.Inductive heating 3.Chopp	
Voltage	600-1600V			
Recovery Time	1.54-4μS			
Outline	See Outline			

Single/three Phases Rectification Bridge Modules				
Symbol	Range	Features	Typical Applications	Outline
Current	50-200A	1.Isolated mounting base, 2500V~ 2.International standard package 3.Solder joint technology with increased power cycling capability 4.Space and weight saving 5.Max junction temperature up to 150°C 6.Low forward voltage drop	1.Supplies for DC power equipment 2.DC supply for PWM inverter 3.Battery DC power supplies 4.Field supply for DC motors 5.Soft start Capacitor Charging 6.Electric drives and auxiliaries 7.Inverter welder	
Voltage	600-1800V			
Surge current	5.8-7.8KA			
Outline	See Outline			
Diode Modules(non-isolated Type)				
Symbol	Range	Features	Typical Applications	Outline
Current	50-300A	1.Non-isolated. Mounting base as common anode or cathode terminal 2.International standard package 3.Pressure contact technology with increased power cycling capability 4.High surge current 5.Low forward voltage drop	1.Welding Power Supply 2.Various DC power supplies 3.DC supply for PWM inverter	
Voltage	800-1800V			
Surge Current	1.4-10KA			
Outline	See Outline			
Three Phases Rectification Bridge+thyristor Modules				
Symbol	Range	Features	Typical Applications	Outline
Current	50-200A	1. Isolated mounting base, 2500V~ 2. International standard package 3.Solder joint technology with increased power cycling capability 4. Simplicity of design, module and SCR rectifier bridge, small volume, light weigh	1.Supplies for DC power equipment 2.Field supply for DC motors 3.Inverter welder	
Voltage	600-1800V			
Surge Current	0.73-1.85KA			
Outline	See Outline			
Thyristor (/diode)modules(non-isolated Type)				
Symbol	Range	Features	Typical Applications	Outline
Current	50-300A	1.Non-isolated. Mounting base as common anode or cathode terminal 2.International standard package 3.Pressure contact technology with increased power cycling capability 4.High surge current 5.Low forward voltage drop	1.Welding Power Supply 2.Various DC power supplies 3.DC supply for PWM inverter 4.Field supply for DC motors	
Voltage	800-1800V			
Surge Current	1.2-8.3KA			
Outline	See Outline			

IGBT Modules

ChipTechnology:Trench Field Stop

ChipFeatures:

- Very lowVCEsat:1.5V
- Lower input capacitance
- Optimized for parallel operation by internal Rg
- Optimized for medium- and high-power applications

ModuleFeatures:

- High speed switching
- Low switchinglosses
- LowVCEsat
- VCEsatwith positive temperature coefficient
- Low thermal resistance
- Comply with UL, RoHS and CE marking
- Standard 34mm and 62mm housing
- Low inductance module structure
- Isolatedbaseplate

Typical Applications:

- Switched-mode power supplies
- Inverter for motor drive
- AC and DC servo drive amplifier
- Highpowerconverters
- UPSsystems

Advanced Module Assembly Lines:

- Full automated assembly lines
- Highest level clean room
- SMT+Vacuum Reflow Soldering
- 250μm thick DBC applied



Product Range

$V_{CES}(V)$ \ $I_c(A)$	75	100	150	200	300	400
600	x	x				
1200	x	x	x	x	x	x
1700		x		x	x	x



Production Line

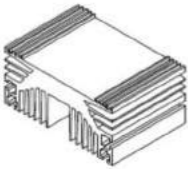
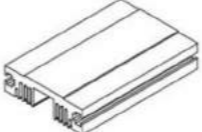
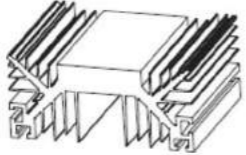
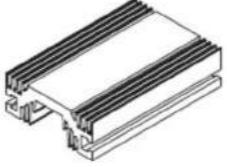
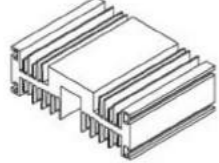
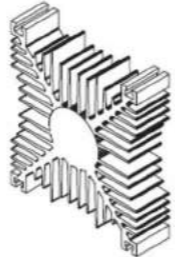
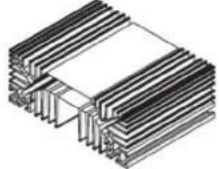
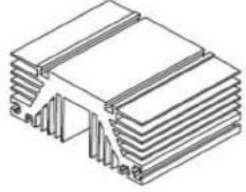

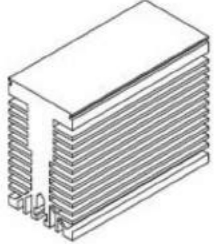


Test Bench

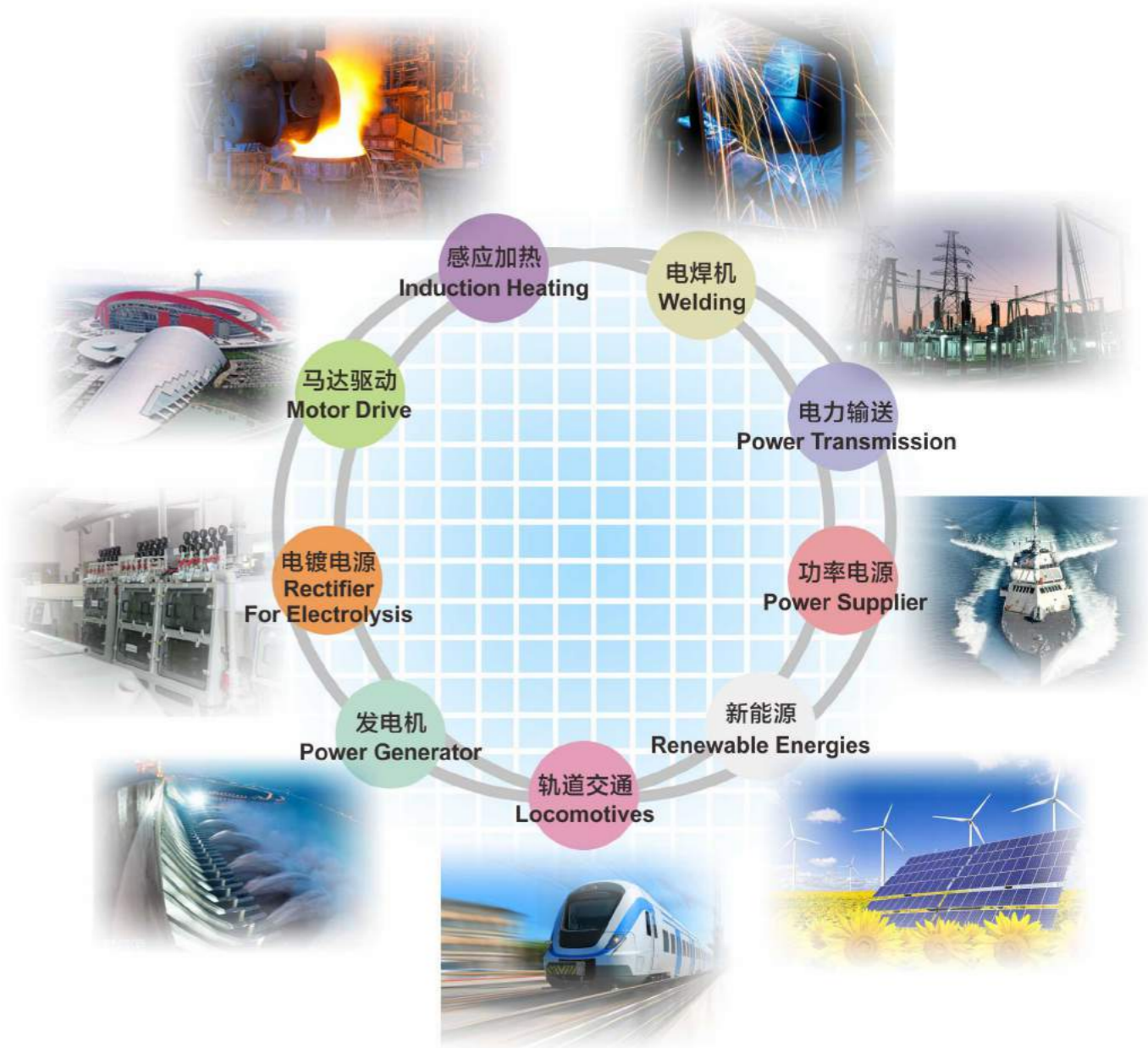
Three-phase Full-bridge Assemblies of B6 Series						
Code For Circuit Connection						
<div><div> B6U</div><div> B6C</div><div> B6HK</div></div>						
Three-phase rectifying bridge B6U series, three-phase fullcontrol bridge B6C series, three-phase half-control bridge B6HK series						
Cooling Method	Device Type	Type-IO-VVN	Rated Output Current IO(a)	Outline	Cooling Condition	Device Voltage
Air Cooling	Modules	B6x-xxx-xxxFA	80-120	Fig.1a	Wind speed ≥6m/s Ambient temperature≤40℃	100~2000
		B6x-xxx-xxxFB	200-300	Fig.1b		
		B6x-xxx-xxxFC	300-500	Fig.3		
	Capsule Types Devices	B6x-xxx-xxxFD	400-1600	Fig.9a		
		B6x-xxx-xxxFE	1000-2000	Fig.10a		
Water Cooling	Capsule Types Devices	B6x-xxx-xxxFF	1500-3000	Fig.13a	Flow≥4L/Min Intake Water temperature≤40℃	
		B6x-xxx-xxxSA(B/C/D/E)	300-4000	Fig.15-19		
		B6x-xxx-xxxRSSxx	600-4000	Fig.20		
<div><div><div>Fig.1a,b</div><div>Fig9a,b</div><div>Fig.19</div><div>Fig20</div></div></div>						

Cooling Method	Type	Shape	Type	Shape
Water Cooling	SS 11		RSS51	
	SS12			
	SS13			
	SS14			
	SS15			
	SS16			
	SS17			
	SS11BL		RSS61	
	SS12BL			
	SS13			
	SS14			
	SS15			
	SS16BL			
	SS17BL			
	RSS11		DSS3	
			DSS5	
			DSS8	
	RSS21		HSS3	
	RSS41			
	RSS31			

Cooling Method	Type	Shape	Type	Shape
Forced Air Cooling	SF17		N	
	SF12			
	SF13			
	SF14			
	SF15			
	SF16			
	SF11			
	SF12BL		FD	
	SF15BL			
	SF15CL		FK	
	D		FE	
	Z		FL	
	W		FI	

Cooling Method	Type	Shape	Type	Shape
Forced Air Cooling	FF		FAJ	
	FG		FAK	
	FAI		FAN	
	FAE			
	FAD		ZfxS	
	FAQ		Zfx	

Application



Quality Control & Certificate



Our commitments:
Providing suitable products,maintaining the effective improvements;
Reducing pollution emissions,creating a green environment;
Ensuring safe production and the health of all employees.

Product Line Overview



Test Equipment



Play Line Equipment



Diffusion center



The spread of the workshop



Module production line



Diffusion

Enterprise Culture



Market Service

