



螺旋式半导体器件 Stud Version Semiconductor

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STANDARD RECOVERY DIODE (Stud Version) | 普通整流二极管(螺旋式)

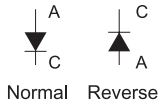
Features

- High surge current capability
- Stud cathode and stud anode version
- Wide current range
- Metric device version available

Typical Applications

- Battery charges
- Converters
- Power supplies
- Machine tool controls
- Welder
- Motor controls

Polarity



Ordering Information Table

Device Code	FR	70	HF	R	120	M	L
	①	②	③	④	⑤	⑥	⑦
1	-None=Standard recovery diodes; FR=Fast recovery diodes						
2	-Current code=IF(AV)						
3	-Outline code: F=DO-4 case 6A~25A; HF=DO-5 case 30A~85A U=DO-8,DO-9 case 100A~300A						
4	-None=Stud Normal Polarity (cathode to stud) R=Stud Reverse Polarity (anode to stud)						
5	-Voltage code=code x 10=VRRM						
6	-None=Standard inch Device; M=Metric Device						
7	-Bigger size						

Notice: If you need metric size or ceramic version, pls contact with ZENLI.

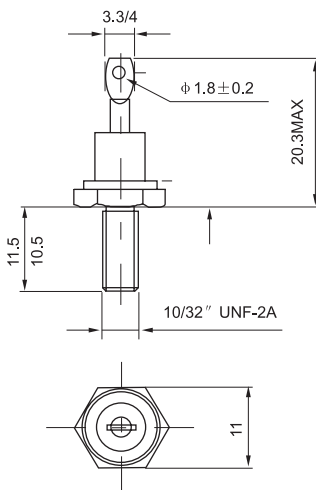


Type	IF(AV)		VFM/IFM		IF(RMS)	VRRM	IRRM	Rjc	Tj	M ²	Wt	Outline
	T _{HS} 55°C		25°C									
	A	V	A	A	V	mA	°C/W	°C	N/m	kg		
6F(R)	6	1.1	18	9.0	200-1200	≤6	≤2.0			≤1.0	0.008	DO-4
12F(R)	12	1.25	36	19.0	200-1200	≤6	≤1.2			≤1.0	0.008	
16F(R)	16	1.25	48	25.0	200-1200	≤12	≤1.2			≤1.0	0.008	
25F(R)	25	1.1	75	40.0	200-1200	≤12	≤1.2			≤1.0	0.008	
30HF(R)	30	1.3	90	48.0	200-1200	≤10	≤0.8			≤2.0	0.020	DO-5
40HF(R)	40	1.3	120	64.0	200-1200	≤10	≤0.8			≤2.0	0.020	
50HF(R)	50	1.4	150	80.0	200-1200	≤10	≤0.8			≤2.0	0.020	
60HF(R)	60	1.4	180	96.0	200-1200	≤12	≤0.6			≤2.0	0.020	
70HF(R)	70	1.45	210	112.0	200-1600	≤12	≤0.5		-40°C ~ +150°C	≤2.0	0.020	DO-8
85HF(R)	85	1.45	255	136.0	200-1600	≤12	≤0.4			≤2.0	0.020	
100U(R)	100	1.8	300	160.0	200-1600	≤15	≤0.3			≤12	0.120	DO-30
150U(R)	150	1.5	450	240.0	200-1600	≤15	≤0.3			≤12	0.120	
100U(R)L	100	1.8	300	160.0	200-1600	≤15	≤0.3			≤12	0.140	DO-9
150U(R)L	150	1.5	450	240.0	200-1600	≤15	≤0.3			≤12	0.140	
200U(R)	200	1.3	600	320.0	200-1800	≤20	≤0.2			≤12	0.250	DO-9
250U(R)	250	1.35	750	400.0	200-1800	≤20	≤0.15			≤25	0.250	
300U(R)	300	1.35	900	480.0	200-1800	≤20	≤0.15			≤25	0.250	B-8
SD400N(R)	400	1.6	1200	640.0	200-2400	≤40	≤0.07			≤25	0.580	
SD500N(R)	500	1.6	1500	800.0	200-2400	≤40	≤0.065			≤25	0.580	
SD600N(R)	600	1.5	1800	960.0	200-2400	≤40	≤0.065			≤30	0.580	

FAST RECOVERY DIODE (Stud Version) | 快恢复整流二极管(螺旋式)

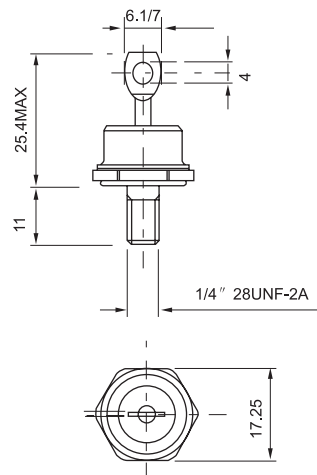
Type	IF(AV)		VFM/IFM		IF(RMS)	VRRM	IRRM	Rjc	Trr	Tj	M ²	Wt	Outline
	T _{HS} 55℃		25℃										
	A	V	A	A	V	mA	℃/W	μs	℃	N/m	kg		
FR10F(R)	10	1.5	30	16.0	200-800	≤6	≤2.0	≤0.5			≤1.0	0.008	DO-4
FR15F(R)	15	1.55	45	24.0	200-800	≤12	≤1.2	≤0.5			≤1.0	0.008	
FR20F(R)	20	1.70	60	32.0	200-800	≤12	≤1.2	≤0.5			≤1.0	0.008	
FR40HF(R)	40	1.95	120	64.0	200-1200	≤10	≤1.2	≤0.7		-40℃ ~ +150℃	≤2.0	0.020	DO-5
FR50HF(R)	50	1.90	150	80.0	200-1200	≤10	≤1.2	≤0.7			≤2.0	0.020	
FR70HF(R)	70	1.85	210	112.0	200-1200	≤12	≤0.8	≤1.0			≤2.0	0.020	
FR80HF(R)	85	1.85	255	136.0	200-1200	≤12	≤0.8	≤1.0			≤2.0	0.020	DO-8
FR100U(R)	100	2.05	300	160.0	200-1200	≤15	≤0.3	≤1.5			≤12	0.120	
FR100U(R)L	100	2.05	300	160.0	200-1200	≤15	≤0.3	≤1.5			≤12	0.140	
FR150U(R)	150	2.00	450	240.0	200-1200	≤20	≤0.2	≤2.0			≤25	0.250	DO-9
FR200U(R)	200	2.05	600	320.0	200-1200	≤20	≤0.2	≤2.5			≤25	0.250	

Diode Stud Version Outline 螺旋式二极管外型



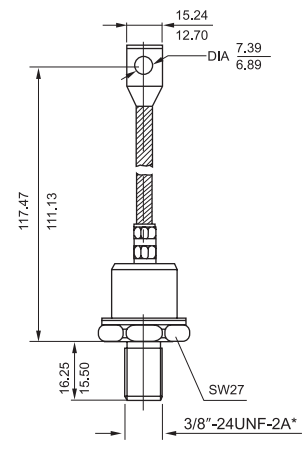
For metric devices:M5×0.8

DO-4



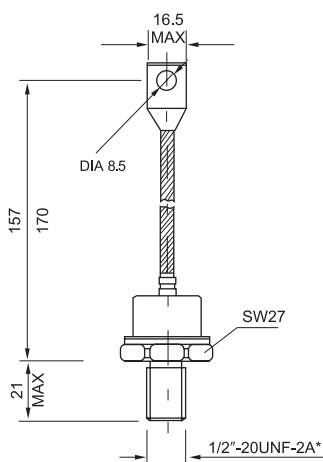
For metric devices:M6×1

DO-5



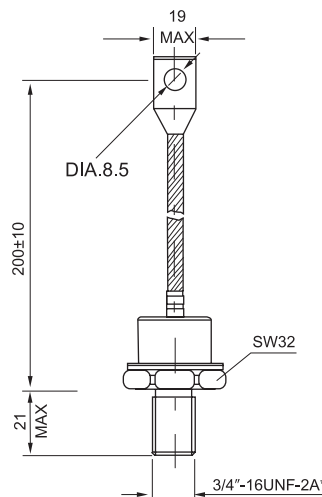
For metric device:M12X1.75

DO-8



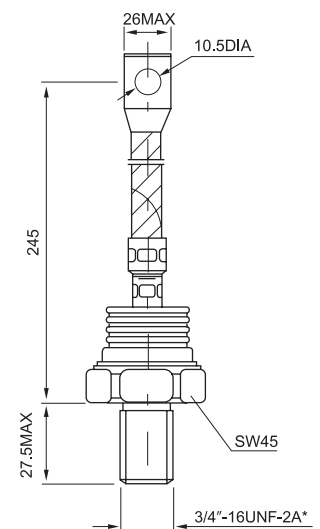
*FOR METRIC DEVICE:M12×1.75

DO-30



*FOR METRIC DEVICE:M16×1.5/M20×1.5

DO-9



*FOR METRIC DEVICE:M20×1.5/M24×1.5

B-8

PHASE CONTROL THYRISTOR (Stud Version) | 普通可控硅(螺旋式)

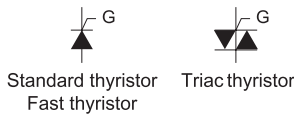
Features

- High current rating
- Excellent dynamic characteristics
- Superior surge capabilities
- Standard package
- Metric Device version available

Typical Applications

- Phase control applications in converters
- Lighting circuits
- Battery charges
- Regulated power supplies and temperature and speed control circuit
- Can be supplied to meet stringent military, aerospace and other high-reliability requirements
- Power supplier & motor controls

Polarity

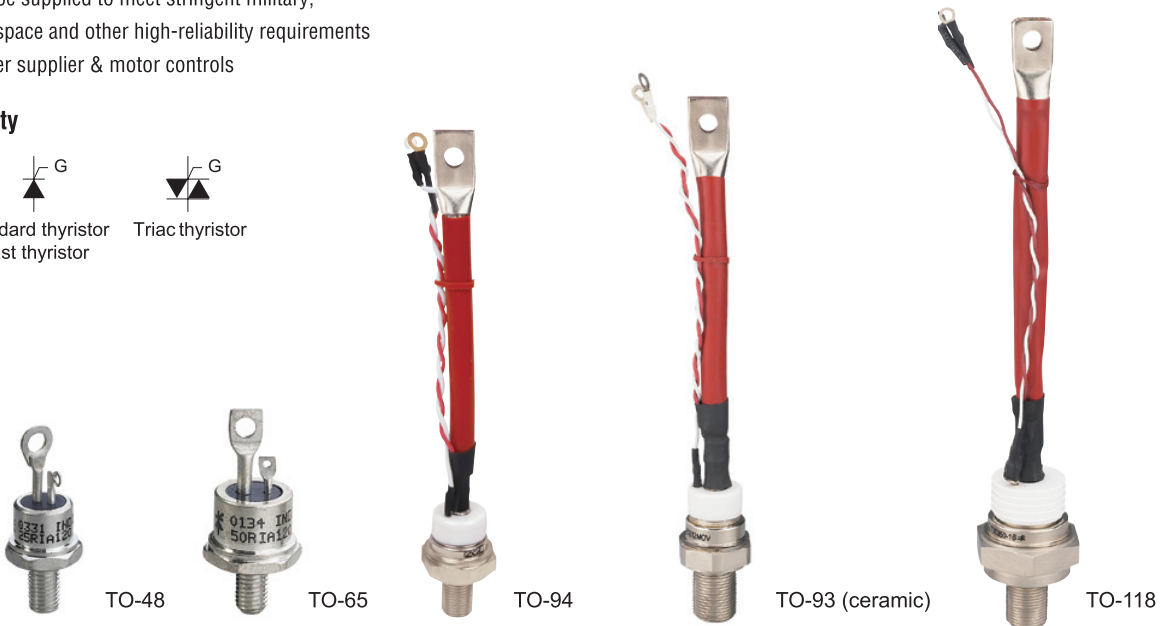


Ordering Information Table

Device Code	S	50	RIA	120	M
	①	②	③	④	⑤
1	-None=Standard thyristor S=Triac thyristor K=Fast thyristor				
2	-Current code= $I_{T(AV)}$				
3	-Essential part number				
4	-Voltage code: code x 10= V_{RRM}				
5	-None=standard inch device M=metric device				

Notice: If you need metric size, pls contact with ZENLI.

Device Code	ST	300	S	16	M	V
	①	②	③	④	⑤	⑥
1	-ST=Standard thyristor SST=Triac thyristor KST=Fast thyristor					
2	-Current code= $I_{T(AV)}$					
3	-S=Stud version device					
4	-Voltage code: code x 10= V_{RRM}					
5	-None=standard inch device M=metric device					
6	-None=ceramic seal V=glass-metal seal					



Type	$I_{T(AV)}$	V_{TM}/I_{TM}		$I_{T(RMS)}$	V_{RRM}	I_{RRM}	I_{GT}	V_{GT}	I_H	I_L	d_v/d_t	d_c/d_t	T_j	R_{jc}	M^2	Wt	Outline
	$T_{HS}55^\circ C$	V	A														
10RIA	10	1.75	30	16	200-1200	≤10	10~100	≤2.5	≤150	≤200	≥500	≥100		≤1.8	≤2.0	0.016	TO-48
16RIA	16	1.75	48	25	200-1200	≤10	10~100	≤2.5	≤150	≤200	≥500	≥100		≤1.5	≤2.0	0.016	
25RIA	25	1.70	75	40	200-1200	≤10	10~100	≤2.5	≤150	≤200	≥500	≥100		≤1.0	≤2.0	0.016	
40RIA	40	1.95	120	64	200-1200	≤12	50~200	≤2.5	≤150	≤200	≥500	≥100		≤1.0	≤2.0	0.022	TO-65
50RIA	50	1.90	150	80	200-1200	≤12	50~200	≤2.5	≤150	≤200	≥500	≥100		≤0.8	≤2.0	0.022	
ST80S	80	1.6	240	128	200-1600	≤15	50~200	≤2.5	≤200	≤400	≥800	≥100	-40°C ~ +125°C	≤0.6	≤12	0.160	TO-94
ST100S	100	1.6	300	160	200-1600	≤15	50~200	≤2.5	≤200	≤400	≥800	≥100			≤0.6	≤12	
ST130S	130	1.55	390	208	200-1600	≤15	50~200	≤2.5	≤200	≤400	≥800	≥100		≤0.55	≤12	0.160	
ST150S	150	1.6	450	240	200-1600	≤20	50~200	≤2.5	≤200	≤400	≥800	≥100		≤0.5	≤12	0.160	TO-93
ST180S	200	1.75	600	320	200-1800	≤20	50~200	≤2.5	≤400	≤600	≥800	≥100		≤0.4	≤25	0.280	
ST230S	250	1.75	750	400	200-1800	≤20	50~200	≤2.5	≤400	≤600	≥800	≥100		≤0.2	≤25	0.280	
ST280S	280	1.70	840	450	200-1800	≤25	50~200	≤2.5	≤400	≤600	≥800	≥100		≤0.15	≤25	0.280	TO-118
ST300S	300	1.5	900	480	200-2400	≤40	50~200	≤2.5	≤600	≤1000	≥800	≥100		≤0.10	≤30	0.580	
ST330S	330	1.55	990	530	200-2400	≤40	50~200	≤2.5	≤600	≤1000	≥800	≥100		≤0.07	≤30	0.580	
ST350S	350	1.6	1050	560	200-2400	≤40	50~200	≤2.5	≤600	≤1000	≥800	≥100		≤0.06	≤30	0.580	

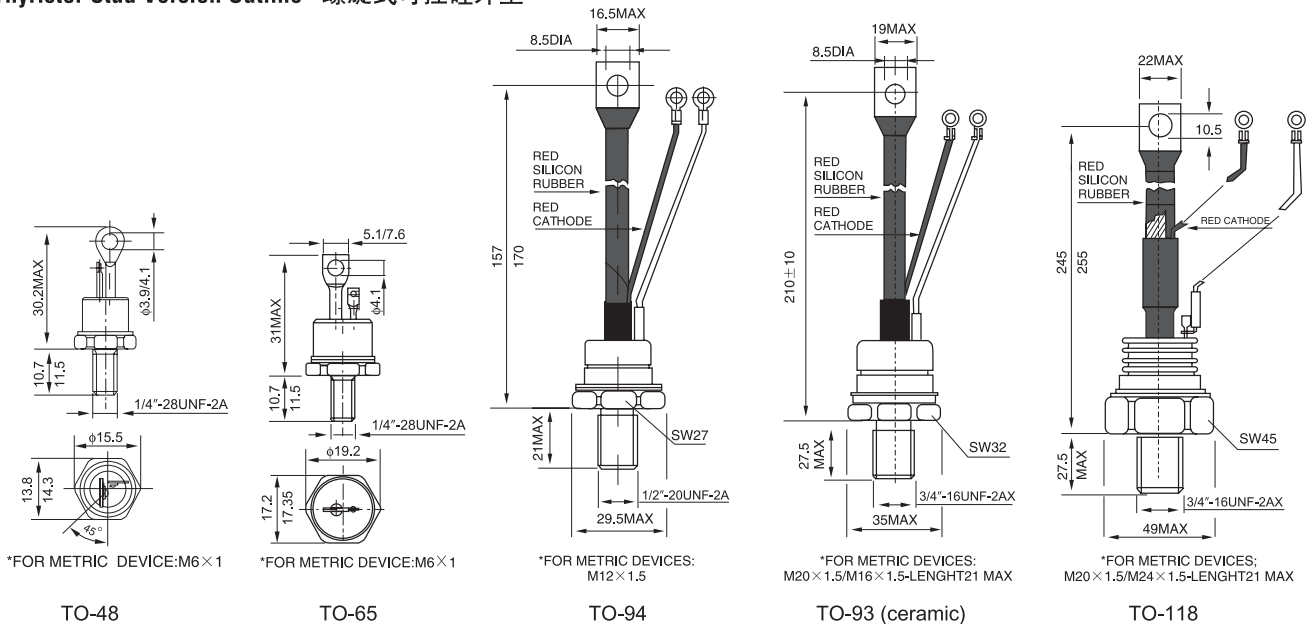
TRIAC THYRISTOR (Stud Version) | 双向可控硅(螺旋式)

Type	I _{T(AV)}		V _{TM} /I _{TM}		V _{RRM}	I _{RRM}	V _{GT}	I _H	I _L	d _v /d _t	d _r /d _t	T _j	R _{jc}	M ²	Wt	Outline
	T _{HS} 55°C		25°C													
	A	V	A	V	V	mA	V	mA	mA	v/us	A/us	°C	°C/W	N/m	kg	
S10RIA	10	2.10	30	200-1200	≤15	≤350	≤200	≤250	≥500	≥10			≤0.12	≤2.0	0.016	TO-48
S16RIA	16	2.15	48	200-1200	≤15	≤350	≤200	≤250	≥500	≥10			≤0.12	≤2.0	0.016	
S25RIA	25	2.35	75	200-1200	≤25	≤350	≤250	≤300	≥500	≥10			≤0.11	≤2.0	0.022	TO-65
S40RIA	40	2.30	120	200-1200	≤25	≤350	≤250	≤300	≥500	≥10			≤0.11	≤2.0	0.022	
S50RIA	50	2.25	150	200-1200	≤25	≤350	≤250	≤300	≥500	≥10	-40°C		≤0.11	≤2.0	0.022	TO-94
SST80S	80	2.05	240	200-1600	≤30	≤350	≤250	≤300	≥500	≥10	~		≤0.10	≤12	0.160	
SST100S	100	2.10	300	200-1600	≤30	≤350	≤250	≤300	≥500	≥10	+125°C		≤0.10	≤12	0.160	TO-93
SST150S	150	2.25	450	200-1600	≤30	≤350	≤250	≤300	≥500	≥10			≤0.09	≤25	0.280	
SST180S	200	2.40	540	200-1600	≤30	≤350	≤250	≤300	≥500	≥10			≤0.09	≤25	0.280	TO-118
SST250S	250	2.40	750	200-1600	≤30	≤350	≤250	≤300	≥500	≥10			≤0.08	≤30	0.580	
SST300S	300	2.45	900	200-1600	≤30	≤350	≤250	≤300	≥500	≥10			≤0.08	≤30	0.580	

FAST THYRISTOR (Stud Version) | 快速可控硅(螺旋式)

Type	I _{T(AV)}		V _{TM} /I _{TM}		I _{T(RMS)}	V _{RRM}	I _{RRM}	T _q	I _{GT}	V _{GT}	I _H	I _L	d _v /d _t	d _r /d _t	T _j	R _{jc}	M ²	Wt	Outline
	T _{HS} 55°C		25°C																
	A	V	A	A	V	mA	us	mA	V	mA	mA	mA	mA	mA	°C	°C/W	N/m	kg	
K10RIA	10	2.35	30	16	200-1200	≤10	10~20	10~100	≤2.5	≤150	≤200	≥500	≥100			≤1.8	≤2.0	0.016	TO-48
K16RIA	16	2.35	48	25	200-1200	≤10	10~20	10~100	≤2.5	≤150	≤200	≥500	≥100			≤1.5	≤2.0	0.016	
K25RIA	25	2.50	75	40	200-1200	≤12	10~20	50~100	≤2.5	≤150	≤200	≥500	≥100			≤1.0	≤2.0	0.022	TO-65
K40RIA	40	2.55	120	64	200-1200	≤12	10~20	50~100	≤2.5	≤150	≤200	≥500	≥100			≤1.0	≤2.0	0.022	
K50RIA	50	2.50	150	80	200-1200	≤12	10~20	50~100	≤2.5	≤150	≤200	≥500	≥100	-40°C		≤0.8	≤2.0	0.022	TO-94
KST80S	80	2.30	240	128	200-1600	≤15	15~25	50~100	≤2.5	≤200	≤400	≥800	≥100	~		≤0.6	≤12	0.160	
KST100S	100	2.25	300	160	200-1600	≤15	15~25	50~100	≤2.5	≤200	≤400	≥800	≥100	+125°C		≤0.6	≤12	0.160	TO-93
KST150S	150	2.35	450	240	200-1800	≤20	15~30	50~100	≤2.5	≤200	≤400	≥800	≥100			≤0.5	≤25	0.280	
KST180S	200	2.40	600	320	200-1800	≤20	15~30	50~100	≤2.5	≤400	≤600	≥800	≥100			≤0.45	≤25	0.280	TO-118
KST230S	250	2.45	700	400	200-1800	≤25	15~30	50~100	≤2.5	≤400	≤600	≥800	≥100			≤0.3	≤30	0.580	
KST300S	300	2.50	900	480	200-1800	≤40	15~30	50~100	≤2.5	≤400	≤600	≥800	≥100			≤0.25	≤30	0.580	

Thyristor Stud Version Outline 螺旋式可控硅外型



RUSSIA TYPE DIODE (Stud Version) | 俄罗斯型二极管(螺旋式)

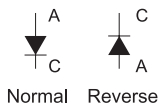
Features

- High surge current capability
- Stud cathode and stud anode version
- Wide current range
- Inch device version available

Typical Applications

- Battery charges
- Converters
- Power supplies
- Machine tool controls
- Welder ■ Motor controls
- Lighting circuits

Polarity



Ordering Information Table

Device Code	D	1	61	-	200	X	-	16
	①	②	③		④	⑤		⑥
1	-D=Standard recovery diode		DF=Fast recovery diode					
	DL=Avalance rectifier diode							
2	-1=Ceramic device							
	2=Glass-Metal device							
3	-Device outline code							
4	-Current code=IF(AV)							
5	-None=Stud Reverse Polarity (anode to stud)				X=Stud Normal Polarity (cathode to stud)			
6	-Voltage code=Code × 100=V _{RRM}							



Russia Type Standard Recovery Diode (Stud Version) 俄罗斯型普通整流二极管(螺旋式)

Type	V _{RRM}	I _{RRM}	IF(AV)	IF(RSM)	IF(SM)	V _{FM} /I _{FM}	T _j	R _{jc}	M ²	Wt	Outline
	V	mA	T _c 55°C A	A	10ms kA	25°C V/A	°C	°C/W	N/m	kg	
D212-10(X)	100-1200	3	10	15	0.25	1.35/31	-40°C ~ +150°C	2.700	0.9-1.1	0.006	RSD1
D212-16(X)	100-1200	3	16	25	0.27	1.35/50		2.000	0.9-1.1	0.006	
D212-25(X)	100-1200	3	25	39	0.34	1.35/78		1.250	0.9-1.1	0.006	
D222-32(X)	100-1200	5	32	50	0.46	1.35/100		1.000	1.4-1.8	0.015	RSD2
D222-40(X)	100-1200	5	40	62	0.55	1.35/125		0.800	1.4-1.8	0.015	
D232-50(X)	100-1600	6	50	76	1.20	1.35/157		0.600	5.0-6.2	0.027	RSD3
D232-63(X)	100-1600	6	63	96	1.40	1.35/198		0.500	5.0-6.2	0.027	
D232-80(X)	100-1600	5	80	125	1.50	1.35/250		0.400	5.0-6.2	0.027	
D141-100(X)	100-1600	20	100	180	2.20	1.35/314		0.400	6-10	0.090	RSD4
D151-125(X)	100-1600	20	125	195	3.00	1.35/392		0.300	10-20	0.165	RSD5
D151-160(X)	100-1600	20	160	300	4.50	1.35/502		0.240	10-20	0.165	
D161-200(X)	100-1800	40	200	400	5.50	1.35/602		0.150	20-30	0.250	RSD6
D161-250(X)	100-1800	40	250	480	6.40	1.35/785		0.140	20-30	0.250	
D161-320(X)	100-1800	40	320	520	7.50	1.35/1005		0.130	20-30	0.250	
D171-400(X)	100-2400	50	400	725	14.25	1.40/1256	0.085	20-30	0.465	RSD7	
D171-500(X)	100-2400	50	500	760	14.0	1.45/1500	0.080	25-35	0.465		

RUSSIA TYPE THYRISTOR (Stud Version) | 俄罗斯型可控硅(螺旋式)

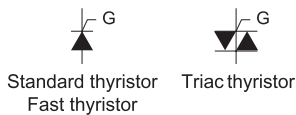
Features

- High surge current capability
- Stud cathode and stud anode version
- Wide current range
- Inch device version available

Typical Applications

- Battery charges
- Converters
- Power supplies
- Machine tool controls
- Welder ■ Motor controls
- Lighting circuits

Polarity



Ordering information Table

Device Code	TC	1	61	-200	-16
	①	②	③	④	⑤
1	T=Phase control thyristor		TC=Triac thyristor		
	TB=Fast thyristor				
2	-1=Ceramic device		2=Glass-Metal device		
3	-Device outline code				
4	-Current code= $I_{T(AV)}$				
5	-Voltage code=Code $\times 100 = V_{RRM}$				



Russia Type Phase Control Thyristor (Stud Version) 俄罗斯型普通可控硅(螺旋式)

Type	V_{RRM}	I_{RRM}	$I_{T(AV)}$	$I_{T(RSM)}$	$I_{T(SM)}$	V_{TM}/I_{TM}	d/d_t	d_s/d_t	V_{GT}	I_{GT}	I_H	T_j	R_{jc}	T_q	M^2	Wt	Outline
	V	mA	A	A	kA	V/A	A/ μ S	V/ μ S	V	mA	mA	$^{\circ}$ C	$^{\circ}$ C/W	μ s	N/m	kg	
T212-10	100-1300	3	10	15.7	0.15	1.93/31	125	50-500	3.0	40	5-50	-40 $^{\circ}$ C ~ +125 $^{\circ}$ C	1.80	63	0.9-1.1	0.006	RST1
T212-16	100-1300	3	15	25.2	0.24	1.80/50	125	50-500	3.0	40	5-50		1.50	63	0.9-1.1	0.006	
T222-20	100-1300	3.5	20	31.4	0.30	1.75/63	125	50-500	3.0	60	5-50	0.90	63	1.4-1.8	0.015	RST2	
T222-25	100-1300	3.5	25	39.2	0.35	1.75/78	125	50-500	3.0	60	5-50	0.80	63	1.4-1.8	0.015		
T232-25	1200-1600	9	25	30.2	0.33	2.20/78	125	50-500	3.5	100	5-100	0.80	160	5.0-6.2	0.023	RST3	
T232-40	100-1300	5	40	62.8	0.75	1.75/125	125	50-500	4.0	100	5-100	0.62	63	5.0-6.2	0.023		
T232-50	100-1300	5	50	70.5	0.80	1.75/157	125	50-500	4.0	100	5-100	0.50	63	5.0-6.2	0.023	RST4	
T242-50	1200-1600	15	50	78.5	0.85	2.10/157	125	50-500	3.5	120	5-100	0.40	160	9.0-11	0.050		
T242-63	100-1300	7	63	90.9	1.30	1.65/108	125	50-500	4.0	150	5-100	0.40	63	9.0-11	0.050	RST5	
T242-80	100-1300	7	80	125.8	1.50	1.63/250	125	50-500	4.0	150	5-100	0.30	63	9.0-11	0.050		
T151-100	300-1600	15	100	160	2.0	1.80/314	160	200-1000	3.5	200	5-200	0.30	160	10-20	0.165	RST6	
T151-125	300-1600	15	125	200	2.5	1.75/392	125	200-1000	3.5	200	5-200	0.15	160	20-30	0.165		
T161-160	300-1800	15	160	260	4.0	1.70/502	125	200-1000	3.5	200	5-200	0.15	160	20-30	0.250	RST7	
T161-200	300-1800	15	200	315	5.0	1.80/628	160	200-1000	3.5	200	5-200	0.13	250	20-30	0.250		
T161-250	300-1600	30	250	390	5.0	1.85/780	125	200-1000	3.5	200	5-200	0.10	160	20-30	0.250	RST7	
T171-250	300-1800	30	250	393	6.0	1.75/785	125	200-1000	3.5	200	5-200	0.10	160	25-35	0.440		
T171-320	300-1800	30	320	500	8.5	1.60/100S	320	200-1000	3.5	200	5-200	0.85	160	25-35	0.440		

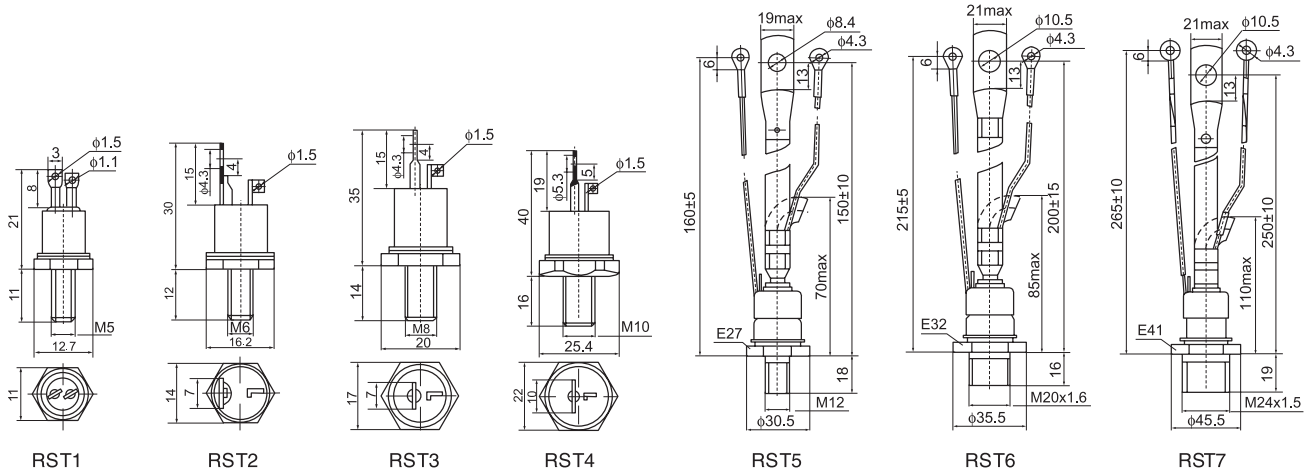
Russia Type Fast Thyristor (Stud Version) 俄罗斯型快速可控硅(螺旋式)

Type	V _{RRM}	I _{RRM}	I _{T(AV)}	I _{T(RSM)}	I _{T(SM)}	V _{TM} /I _{TM}	d/d _t	d _v /d _t	V _{GT}	I _{GT}	I _H	T _j	R _{jc}	T _q	M ²	Wt	Outline		
	T _c 55°C			10ms			25°C												
	V	mA	A	A	kA	V/A	A/μS	V/μS	V	mA	mA	°C	°C/W	μs	N/m	kg			
TB212-10	400-1400	10	10	16	0.15	2.2/31	200	100-1000	2.0	100	5-50	-40°C ~ +125°C	1.50	12.5, 20, 25, 32	0.9-11	0.006	RST1		
TB222-16	400-1400	12	16	25	0.30	2.2/50	200	100-1000	2.0	120	5-50		0.90	12.5, 20, 25, 32	1.5-1.7	0.015	RST2		
TB222-20	400-1400	12	20	31	0.35	2.2/62	200	100-1000	2.0	120	5-50		0.80	12.5, 20, 25, 32	1.5-1.7	0.015	RST2		
TB232-25	400-1400	15	25	39	0.50	2.2/78	200	100-1000	2.5	170	5-100		0.82	12.5, 20, 25, 32	5.0-8.2	0.023	RST3		
TB232-32	400-1400	15	32	50	0.60	2.2/99	200	100-1000	2.5	170	5-100		0.62	12.5, 20, 25, 32	5.0-6.2	0.023	RST3		
TB232-40	400-1400	15	40	62	0.75	2.2/125	200	100-1000	2.5	170	5-100		0.50	12.5, 20, 25, 32	5.0-6.2	0.023	RST3		
TB242-50	400-1400	20	50	78	1.00	2.2/157	200	100-1000	3.0	200	5-100		0.40	12.5, 20, 25, 32	9.0-1.1	0.050	RST4		
TB242-63	400-1400	20	63	98	1.10	2.2/198	200	100-1000	3.0	200	5-100	0.30	12.5, 20, 25, 32	9.0-1.1	0.050	RST4			
TB151-80	500-1600	20	80	126	1.6	2.2/250	500	500-1000	3.0	250	5-200	+125°C	0.25	20, 25, 32, 40	10-20	0.165	RST5		
TB151-100	500-1600	20	100	157	2.0	1.8/314	500	500-1000	2.5	250	5-200		0.25	20, 25, 32, 40	10-20	0.165	RST5		
TB161-125	500-1600	25	125	198	3.5	2.2/390	500	500-1000	2.5	250	5-200	0.15	20, 25, 32, 40	20-30	0.250	RST6			
TB161-160	500-1600	25	160	250	4.0	1.8/500	500	500-1000	2.5	250	5-200	0.15	20, 25, 32, 40	20-30	0.250	RST6			
TB171-200	500-1600	35	200	314	6.0	2.2/630	500	500-1000	3.5	250	5-200	0.10	20, 25, 32, 40	25-35	0.440	RST7			
TB171-250	500-1600	35	250	302	7.0	1.8/785	500	500-1000	3.5	250	5-200	0.10	20, 25, 32, 40	25-35	0.440	RST7			
TB171-320	500-1600	35	320	390	8.0	2.2/900	500	500-1000	3.5	250	5-200	0.10	20, 25, 32, 40	25-35	0.440	RST7			

Russia Type Triac Thyristor (Stud Version) 俄罗斯型双向可控硅(螺旋式)

Type	V _{RRM}	I _{RRM}	I _{T(AV)}	I _{T(SM)}	V _{TM} /I _{TM}	d/d _t	d _v /d _t	V _{GT}	I _{GT}	I _H	T _j	R _{jc}	M ²	Wt	Outline	
	T _c 55°C			10ms			25°C									
	V	mA	A	kA	V/A	A/μS	V/μS	V	mA	mA	°C	°C/W	N/m	kg		
TC212-10	200-1200	3.0	10	0.07	1.85/14	5.0	2.2-25	2.0	3.0	5-50	-40°C ~ +125°C	2.50	0.9-1.1	0.006	RST1	
TC212-16	200-1200	3.0	16	0.10	1.85/22	5.0	2.5-25	2.0	3.0	5-50		1.55	0.9-1.1	0.006	RST1	
TC222-20	200-1200	3.5	20	0.12	1.85/29	5.0	2.5-50	2.5	3.5	5-50		1.30	1.5-1.7	0.015	RST2	
TC222-25	200-1200	3.5	25	0.20	1.80/35	5.0	2.5-50	2.5	3.5	5-50		0.90	1.5-1.7	0.015	RST2	
TC232-40	200-1200	5.0	40	0.25	1.85/58	6.3	6.3-100	3.0	4.0	50-100		0.65	5.0-6.2	0.023	RST3	
TC232-50	200-1200	5.0	50	0.45	1.80/70	6.3	6.3-100	3.0	4.0	50-100		0.52	5.0-6.2	0.023	RST3	
TC242-63	200-1200	7.0	63	0.40	1.80/89	6.3	6.3-100	3.0	5.0	50-100		0.44	9.0-11	0.050	RST4	
TC242-80	200-1200	7.0	80	0.50	1.80/113	6.3	6.3-100	3.0	5.0	50-100	0.34	9.0-11	0.050	RST4		
TC151-100	200-1200	10	100	1.0	1.65/140	6.3	6.3-100	3.0	300	50-100	+125°C	0.22	10-20	0.165	RST5	
TC151-125	200-1200	10	125	1.2	1.74/180	6.3	6.3-100	3.0	300	50-100		0.22	10-20	0.165	RST5	
TC161-160	200-1600	15	160	1.8	1.75/225	6.3	6.3-100	3.0	300	50-200	0.14	20-30	0.250	RST6		
TC161-200	200-1600	15	200	2.0	1.60/290	6.3	6.3-100	3.5	300	50-200	0.14	20-30	0.250	RST6		
TC171-250	200-1600	25	250	3.0	1.70/350	25	6.3-100	3.5	300	50-200	0.10	25-35	0.440	RST7		
TC171-320	200-1600	25	320	3.3	1.50/450	25	6.3-100	3.5	300	50-200	0.10	25-35	0.440	RST7		

Russia Type Thyristor Stud Version Outline 俄罗斯型螺旋式可控硅外型



SEMİKRON TYPE SEMICONDUCTOR (Stud Version) | 西门康型半导体器件(螺旋式)

Features

- High surge current capability
- Stud cathode and stud anode version
- Wide current range
- Inch device version available

Typical Applications

- Machine tool controls
- Battery charges
- Converters
- Motor controls
- Welder
- Phase control applications in converters
- Lighting circuits

Ordering information Table

Device Code **SK N 240 / 12**

① ② ③ ④

- 1 - SEMİKRON Type Semiconductor
- 2 - N=anode to stud (stud reverse polarity)
R=cathode to stud (stud normal polarity)
T=phase control thyristor
- 3 - Current code=IT(AV) or IF(AV)
- 4 - Voltage code=code × 100=VRRM

Notice: If you need inch size or ceramic type, pls contact ZENLI.



SEMİKRON Type Standard Recovery Diode (Stud Version) 西门康型普通整流二极管(螺旋式)

Type	IF(AV)		VFM/IFM		IF(RMS)	VRRM	IRRM	Rjc	Tj	M ²	Wt	Outline
	T _{HS} 55℃		25℃									
	A	V	A	A	V	mA	℃/W	℃	N/m	kg		
SKN26	25	1.25	75	40	200-1200	≤12	≤1.2			≤1.0	0.010	SKD4
SKR26	25	1.25	75	40	200-1200	≤12	≤1.2		≤1.0	0.010		
SKN46	45	1.4	135	75	200-1600	≤10	≤1.0			≤2.0	0.025	SKD5
SKR46	45	1.4	135	75	200-1600	≤10	≤1.0		≤2.0	0.025		
SKN71	70	1.45	210	115	200-1600	≤12	≤0.8			≤2.0	0.025	SKD5L
SKR71	70	1.45	210	115	200-1600	≤12	≤0.8		≤2.0	0.025		
SKN45	45	1.4	135	75	200-1600	≤10	≤1.0		-40℃	≤2.0	0.050	SKD5L
SKR45	45	1.4	135	75	200-1600	≤10	≤1.0		~	≤2.0	0.050	
SKN70	70	1.45	210	115	200-1600	≤12	≤0.8		+125℃	≤2.0	0.050	SKD8
SKR70	70	1.45	210	115	200-1600	≤12	≤0.8			≤2.0	0.120	
SKN100	100	1.6	300	160	200-1600	≤15	≤0.5			≤12	0.120	SKD8
SKR100	100	1.6	300	160	200-1600	≤15	≤0.5			≤12	0.120	
SKN130	130	1.5	390	210	200-1600	≤15	≤0.4			≤12	0.120	SKD9
SKR130	130	1.5	390	210	200-1600	≤15	≤0.4			≤12	0.120	
SKN240	240	1.35	720	400	200-1800	≤15	≤0.2			≤25	0.240	SKD9
SKR240	240	1.35	720	400	200-1800	≤15	≤0.2			≤25	0.240	
SKN320	320	1.5	960	210	200-1800	≤20	≤0.1			≤30	0.450	SKD10
SKR320	320	1.5	960	210	200-1800	≤20	≤0.1			≤30	0.450	
SKN400	400	1.6	1200	640	200-2400	≤20	≤0.1			≤30	0.450	SKD10
SKR400	400	1.6	1200	640	200-2400	≤20	≤0.1			≤30	0.450	

CHINESE TYPE SEMICONDUCTOR (Stud Version) | 国标半导体器件(螺旋式)

CHINESE TYPE STANDARD RECOVERY DIODE (Stud Version) 国标普通整流管(螺旋式)

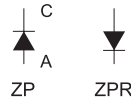
Features

- High surge current capability
- Stud cathode and stud anode version
- Wide current range

Typical Applications

- Battery charges
- Converters
- Power supplies
- Machine tool controls
- Welder
- Motor controls

Polarity



Type	$I_{F(AV)}$	$I_{F(RMS)}$	V_{FM}	V_{RRM}	I_{RRM}	R_{jc}	T_j	Wt	Outline	Heatsink
	$T_{HS}55^{\circ}C$		$25^{\circ}C$							
	A	A	V	V	mA	$^{\circ}C/W$	$^{\circ}C$	kg		
ZP5A	5	7.9	≤ 1.6	200-2000	≤ 2	≤ 4.0		0.010	A1	SZ13
ZP10A	10	16	≤ 1.6	200-2000	≤ 2	≤ 2.5		0.025	A2	SZ14
ZP20A	20	31	≤ 1.6	200-2000	≤ 6	≤ 1.4		0.027	A3/C1	SZ15
ZP30A	30	47	≤ 1.6	200-2000	≤ 6	≤ 1.0	-40 $^{\circ}C$	0.110	C2	SZ16
ZP50A	50	79	≤ 1.6	200-2000	≤ 12	≤ 0.6	~	0.140	C3	SZ16
ZP100A	100	160	≤ 1.8	200-2000	≤ 12	≤ 0.3	+150 $^{\circ}C$	0.205	C4	SL17
ZP200A	200	310	≤ 1.8	200-3000	≤ 12	≤ 0.2		0.325	C5	SL18
ZP300A	300	470	≤ 1.8	200-3000	≤ 15	≤ 0.11		0.470	C6	SL19
ZP400A	400	550	≤ 1.8	200-5000	≤ 15	≤ 0.075		0.750	C7	SL20
ZP500A	500	630	≤ 1.8	200-5000	≤ 15	≤ 0.068		0.925	C7/C8	SL20

CHINESE TYPE PHASE CONTROL THYRISTOR (Stud Version) 国标普通晶闸管(螺旋式)

Features

- High current rating
- Excellent dynamic characteristics
- Superior surge capabilities
- Standard package

Typical Applications

- Phase control applications in converters
- Lighting circuits
- Battery charges
- Regulated power supplies and temperature and speed control circuit
- Can be supplied to meet stringent military, aerospace and other high-reliability requirements
- Power supplier & motor controls

Polarity



Type	$I_{T(AV)}$	$I_{F(RMS)}$	V_{TM}	V_{RRM}	I_{DRM}	I_{GT}	V_{GT}	I_H	d_v/d_t	d/d_t	T_j	R_{jc}	Wt	Outline	Heatsink
	$T_{HS}55^{\circ}C$		$25^{\circ}C$												
	A	A	V	V	mA	mA	V	mA	V/ μs	A/ μs	$^{\circ}C$	$^{\circ}C/W$	kg		
KP5A	5	8	≤ 2.2	200-2000	≤ 8	5-45	≤ 2.5	5-45	≥ 500	/		≤ 3.0	0.012	B1	SZ13
KP10A	10	16	≤ 2.2	200-2000	≤ 8	5-45	≤ 2.5	5-45	≥ 500	/		≤ 2.5	0.027	B2	SZ14
KP20A	20	32	≤ 2.2	200-2000	≤ 8	5-45	≤ 2.5	5-45	≥ 500	/	-40 $^{\circ}C$	≤ 1.0	0.029	B3/D1	SZ15
KP30A	30	48	≤ 2.2	200-2000	≤ 10	5-50	≤ 2.5	5-50	≥ 800	100	~	≤ 0.5	0.112	D2	SZ16
KP50A	50	80	≤ 2.4	200-2000	≤ 10	5-150	≤ 2.5	5-150	≥ 800	100	+125 $^{\circ}C$	≤ 0.14	0.142	D3	SZ16
KP100A	100	160	≤ 2.4	200-2000	≤ 10	5-200	≤ 2.5	5-200	≥ 800	100		≤ 0.11	0.207	D4	SL17
KP200A	200	320	≤ 2.6	200-2000	≤ 10	5-200	≤ 2.5	5-200	≥ 800	100		≤ 0.11	0.327	D5	SL18
KP300A	300	480	≤ 2.6	200-2000	≤ 30	5-200	≤ 2.5	5-200	≥ 800	100		≤ 0.08	0.472	D6	SL19
KP400A	400	550	≤ 2.6	200-3000	≤ 30	5-200	≤ 2.5	5-200	≥ 800	100		≤ 0.05	0.750	D7	SL20
KP500A	500	800	≤ 2.6	200-3000	≤ 30	5-200	≤ 2.5	5-200	≥ 800	100		≤ 0.04	0.927	D7/D8	SL20

CHINESE TYPE TRIAC THYRISTOR (Stud Version) 国标双向晶闸管(螺旋式)

Features

- High current rating
- Excellent dynamic characteristics
- Superior surge capabilities
- Standard package

Polarity



Typical Applications

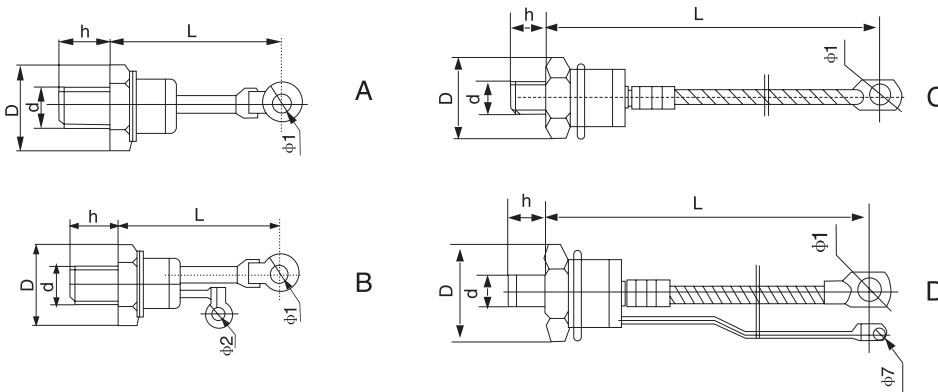
- Phase control applications in converters
- Lighting circuits
- Battery charges
- Regulated power supplies and temperature and speed control circuit
- Can be supplied to meet stringent military, aerospace and other high-reliability requirements
- Power supplier & motor controls



Type	$I_{T(RMS)}$	V_{TM}	V_{RRM}	I_{RRM}	I_{GT}	I_H	V_{GT}	d_v/d_t	d/d_t	T_j	R_{jc}	Wt	Outline	Heatsink
	$T_{HS55^\circ C}$	25°C												
	A	V	V	mA	mA	mA	V	V/ μs	A/ μs	°C	°C/W	kg		
KS5A	5	≤2.6	200-2000	≤30	≤350	≤250	3.5	≥500	≥10	-40°C ~ +125°C	0.11	0.010	B1	SZ13
KS10A	10	≤2.6	200-2000	≤30	≤350	≤250	3.5	≥500	≥10		0.11	0.025	B2	SZ14
KS20A	20	≤2.6	200-2000	≤30	≤350	≤250	3.5	≥500	≥10		0.11	0.027	B3	SZ15
KS30A	30	≤2.6	200-2000	≤30	≤350	≤250	3.5	≥500	≥10		0.11	0.110	D2	SZ16
KS50A	50	≤2.6	200-2000	≤30	≤350	≤250	3.5	≥500	≥10		0.11	0.130	D3	SZ16
KS100A	100	≤2.6	200-2000	≤30	≤350	≤250	3.5	≥500	≥10		0.11	0.165	D4	SL17
KS200A	200	≤2.6	200-2000	≤30	≤350	≤250	3.5	≥500	≥10		0.11	0.335	D5	SL18

CHINESE TYPE STUD VERSION OUTLINE LIST 国标螺旋式外型尺寸对照表

Type	Outline No.	Dimension (mm)					
		d	D	L	h	φ1	φ2
50A	A1 B1	6	16	29	10	3	2
10A	A2 B2	8	22	39	13	4	2
20A	A3 B3	10	22	39	13	4	2
20A(L)	C1 D1	10	27	180	13	6	2
30A	C2 D2	12	32	170	15	6.5	5
50A	C3 D3	12	36	175	15	6.5	5
100A	C4 D4	16	36	200	16	8	5
200A	C5 D5	20	43	225	20	9	5
300A	C6 D6	20	49	240	20	9	5
400A/500A	C7 D7	30	57	300	26	15	5
500A	C8 D8	30	74	390	30	15	5



ZENLI PATENT DESIGN SEMICONDUCTOR | 正力专利设计半导体器件

简要概述

ZLZP,ZLKP系列是正力最新研制，替代螺旋式整流二极管，可控硅的高性能产品。该系列产品引进欧洲最新低热阻，高导电性辅助材料，采用自主研发的突破性工艺，是您提高设备性能，降低成本的好选择！

特性

- 有效减少热阻，提高散热性能，改善器件的高温特性
- 减少接触环节，降低接触电阻，提高器件的过流能力
- 采用灌封工艺，提高密封性能，使器件能在潮湿，酸碱等恶劣环境中正常使用
- 免除安装导电片入散热器的工序，节约工时
- 价格较老工艺产品更优惠，提高您设备的市场竞争力

注意：本系列产品已申请国家技术专利和外观专利，如有仿冒，正力将追究法律责任。

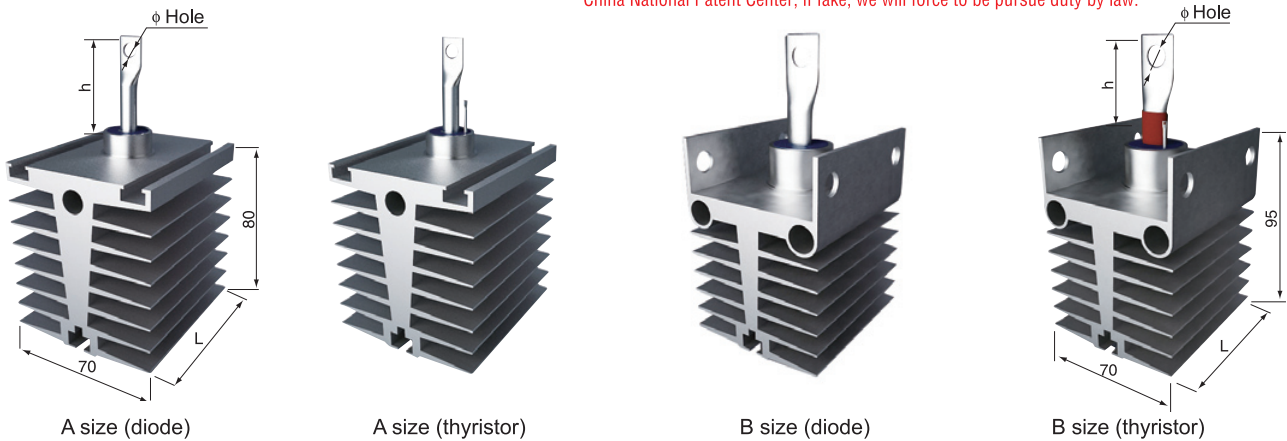
General Description

ZLZP, ZLKP series products is Zenli newly developed, replace stud version rectifier diode& thyristor, high-performance products. This series of products were being use to the latest European low thermal resistance, high conductivity of the supporting material, use independent research and development of newly technology. It's your improve equipment performance, reduce cost's good choice!

Features

- Effectively reduce the thermal resistance, improve heat dissipation, improving high-temperature characteristics of devices
- Reduction of contact program, lower contact resistance, improve over-current capacity
- The use of encapsulation technology, improve sealing performance, so that devices can be use at damp, acid-base and other harsh environment.
- Remove the conductive terminal into the radiator installation process, saving worker cost.
- Price is lower than older technology products, , improve your equipment's market competitiveness

Attention: This series of products have applied for technology patents and appearance patents of China National Patent Center, if fake, we will force to be pursue duty by law.



ZLZP Series Rectifier Diode ZLZP系列整流二极管

Type	IF(AV)		VFM/IFM		IF(RMS)	VRRM	IRRM	Rjc	Tj	A size dimension				B size dimension			
	T _{HS} 55°C		25°C							H	L	Hole	Wt	H	L	Hole	Wt
	A	V	A	A	V	mA	°C/W	°C	mm	mm	mm	kg	mm	mm	mm	kg	
ZLZP100A	100	1.2	300	160	200-1600	≤12	≤0.15	-40°C	45	50	7.5	0.400	20	50	7.5	420	
ZLZP150A	150	1.2	150	240	200-1600	≤12	≤0.15		45	50	7.5	0.410	20	50	7.5	430	
ZLZP200A	200	1.2	600	320	200-1600	≤15	≤0.12	~	50	80	8.5	0.570	25	80	7.5	600	
ZLZP250A	250	1.25	750	400	200-1600	≤15	≤0.12	+125°C	50	80	8.5	0.590	25	80	7.5	620	
ZLZP300A	300	1.2	900	480	200-1600	≤15	≤0.10		60	100	10.2	0.860	35	100	10.5	900	

ZLKP Series Phase Control Thyristor ZLKP系列普通可控硅

Type	IT(AV)		VTM/ITM		IT(RMS)	VRRM	IRRM	IGT	VGT	IH	dv/dt	d/dt	Rjc	Tj	A size dimension				B size dimension			
	T _{HS} 55°C		25°C												H	L	Hole	Wt	H	L	Hole	Wt
	A	V	A	A	V	mA	V	mA	mA	V/μs	A/μs	°C/W	°C	mm	mm	mm	kg	mm	mm	mm	kg	
ZLKP100A	100	1.2	300	160	200-1600	≤15	≤200	≤2.5	≤200	≤800	≤100	≤0.25	-40°C	45	50	7.5	400	20	50	7.5	420	
ZLKP150A	150	1.2	150	240	200-1600	≤15	≤200	≤2.5	≤200	≤800	≤100	≤0.20		45	50	7.5	410	20	50	7.5	430	
ZLKP200A	200	1.2	600	320	200-1600	≤18	≤200	≤2.5	≤200	≤800	≤100	≤0.18	~	50	80	8.5	570	25	80	7.5	600	
ZLKP250A	250	1.25	750	400	200-1600	≤20	≤200	≤2.5	≤200	≤800	≤100	≤0.15	+125°C	50	80	8.5	590	25	80	7.5	620	
ZLKP300A	300	1.2	900	480	200-1600	≤20	≤200	≤2.5	≤200	≤800	≤100	≤0.12		60	100	10.5	860	35	100	10.5	900	