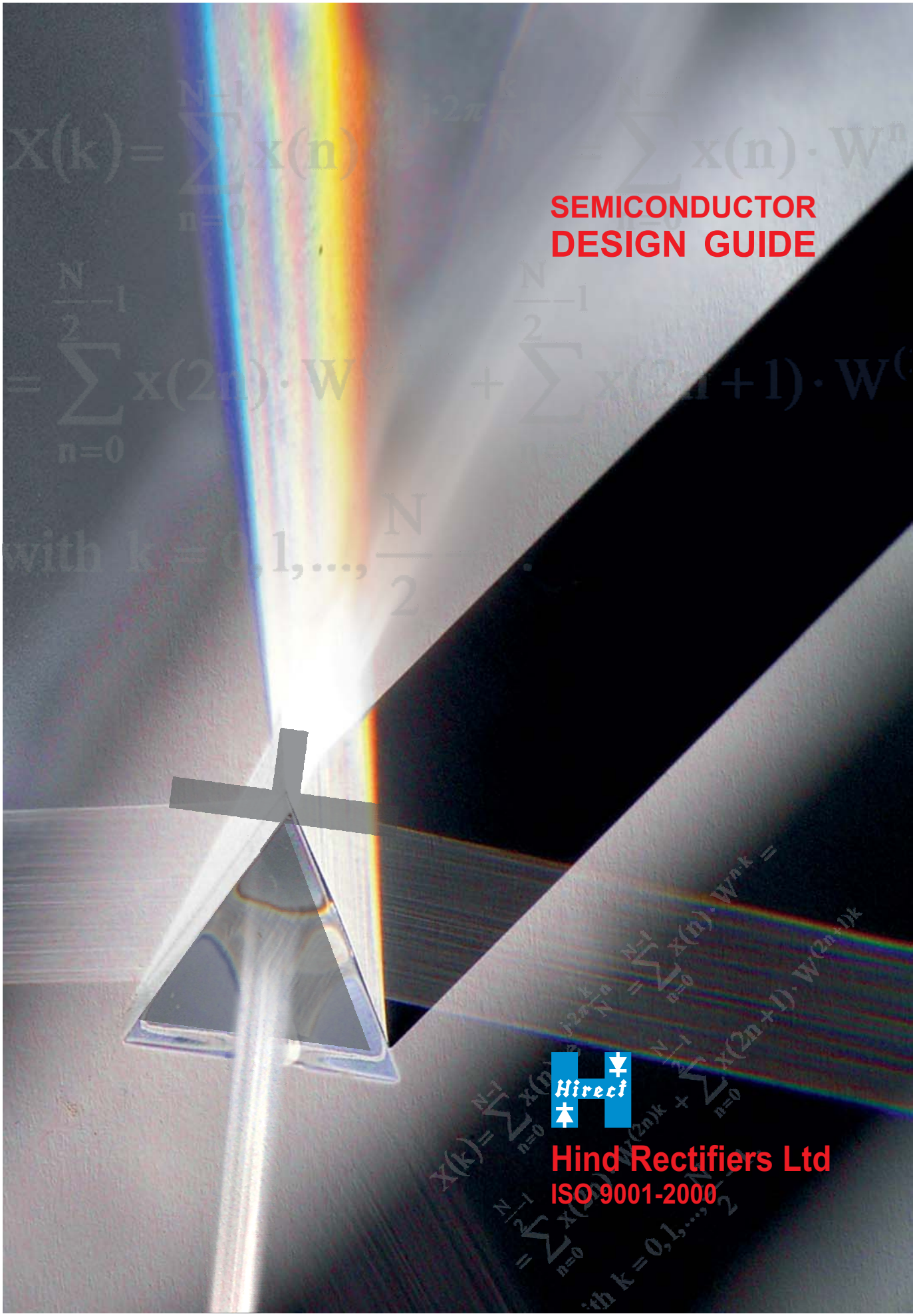


SEMICONDUCTOR DESIGN GUIDE

Hind Rectifiers Ltd

ISO 9001-2000

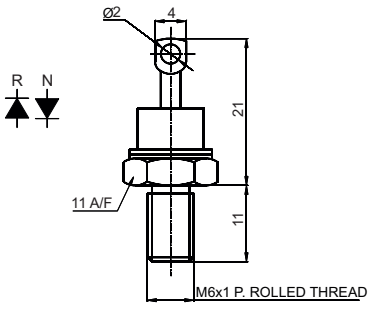
Contents

Rectifier Diodes

Top Hat Type												
Type	V_{RRM} ×100 V	$I_{f(av)}$ / T_c		I_{frms}	I_{FSM} 10 mS $T_{j\,max}$	I^2t 10mS	V_{pk} / I_{pk} at T_{jmax}		V_o	r	R_{th} (j-c) (c-h)	T_{jmax}	Fig.No
	[V]	[A]	[°C]	[A]	[A]	[kA^{2}sec]	[V]	[A]	[V]	[mΩ]	[°C/W]	[°C]	
SXHN6	2 - 15	6	130	9.5	200	0.200	1.30	20	0.70	16.50	4.500 0.60	180	TD1
SXHN14		12	130	19	250	0.312	1.50	38	0.77	11.00	2.100 0.60		TD1
SXHN16		16	130	25	300	0.450	1.55	50	0.82	8.30	1.500 0.25		TD1
SXHN20		20	130	32	350	0.612	1.50	63	0.90	10.00	1.300 0.25		TD1
SXBN26		25	130	40	375	0.703	1.45	78	0.80	10.00	1.100 0.25		TD2
SXHN26		25	130		400	0.800	1.25	78	0.80	4.25	1.000 0.25		TD3
SXHN41		40	130	63	500	1.250	1.25	125	0.72	3.60	0.750 0.25		TD3
SXHN55		55	125	86	800	3.200	1.35	172	0.72	2.75	0.500 0.15		TD3
SXBR71		70	125	110	1000	5.000	1.35	220	0.77	2.00	0.400 0.15		TD3
SXHNS100		100	130	160	2400	28.800	1.30	300	0.80	1.22	0.360 0.05		TD4
SXHNS150		150	130	200	3600	64.800	1.25	470	0.75	0.90	0.240 0.05		TD4
SXHBN150		150	130	200	3600	64.800	1.25	470	0.75	0.90	0.240 0.05		TD5
SXHNS201		200	130	300	4000	80.000	1.30	630	0.70	0.60	0.240 0.05		TD4
SXHBN200		200	130	300	4000	80.000	1.30	630	0.70	0.60	0.240 0.05		TD5
SXHNS250		250	130	392	5000	125.000	1.30	785	0.75	0.56	0.180 0.05		TD7
SXHN250		250	130	392	5000	125.000	1.30	785	0.75	0.56	0.180 0.05		TD6
SXHN300		300	130	471	5200	1303.000	1.20	1000	0.72	0.40	0.160 0.05		TD6
SXHNS320		320	125	500	5500	151.000	1.40	1000	0.77	0.57	0.140 0.05		TD7
SXHN350		350	125	430	6000	180.000	1.15	1050	0.75	0.36	0.140 0.05		TD6
SXHFN350		350	125	430	6000	180.000	1.15	1050	0.75	0.36	0.120 0.02		TD8
SXHN400		400	125	628	7000	245.000	1.12	1500	0.75	0.35	0.120 0.05		TD6
SXHFN400		400	125	628	7000	245.000	1.12	1500	0.75	0.35	0.110 0.02		TD8
SXHN550	2 - 18	550	100	865	12500	781.000	1.65	1500	0.85	0.50	0.072 0.02	160	TD9
SXHN680	2 - 30	680	90	1070	14000	980.000	1.55	2100	0.80	0.33	0.070 0.02		TD9
SXHN860	2 - 20	860	100	1350	16000	1280.000	1.48	2500	0.74	0.20	0.070 0.20	180	TD9

* for further details refer individual datasheets @ www.hirect.com

TD1



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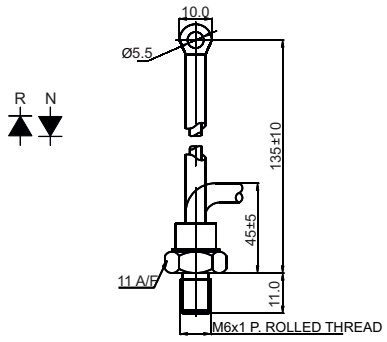

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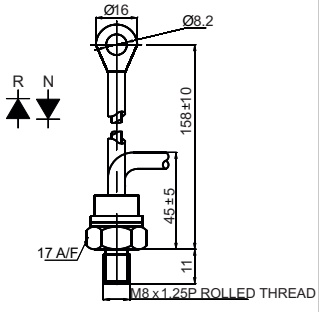
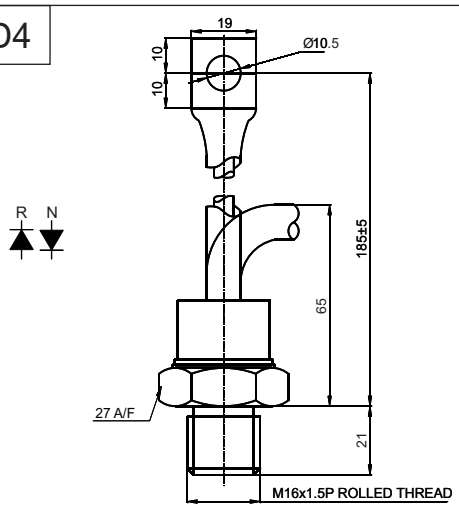


Rectifier Diodes

TD4



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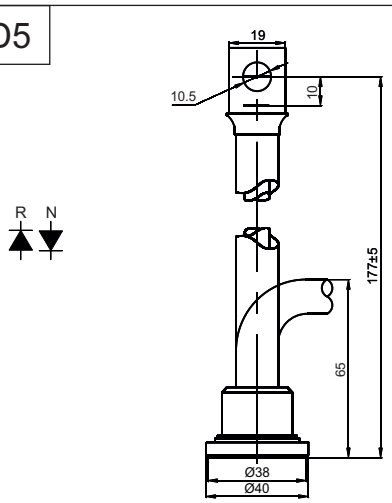

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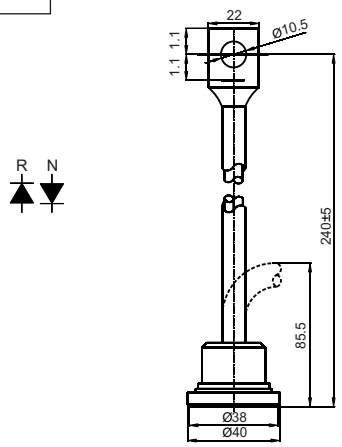

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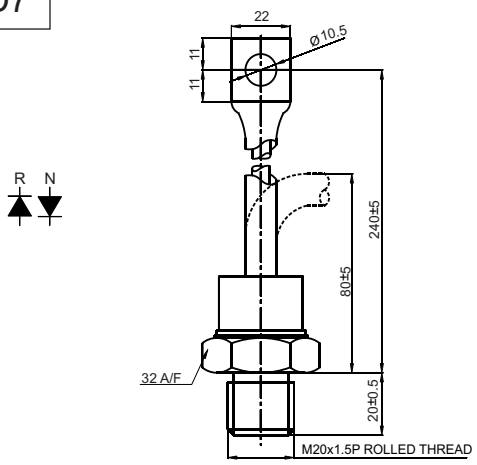

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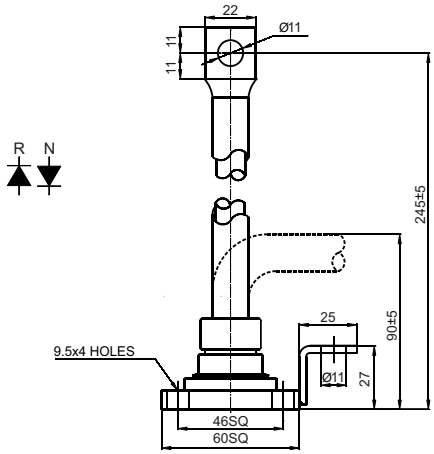

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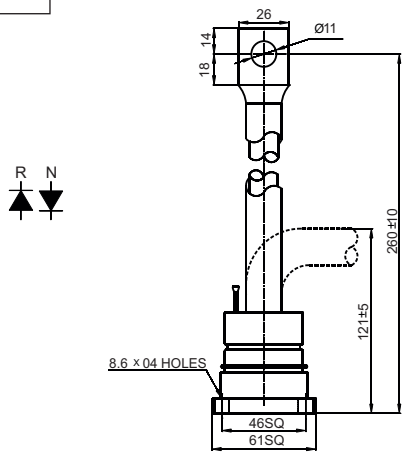


Rectifier Diodes

Capsules

Type	V_{RRM} ×100 V	$I_{f(av)}$ / T_c		I_{frms}	I_{FSM} 10 mS $T_{j\ max}$	I^2t	V_{pk} / I_{pk} at T_{jmax}		V_o	r	R_{th} (j-c)	(c-h)	T_{jmax}	Fig No
	[V]	[A]	[°C]	[A]	[A]	[kA^2sec]	[V]	[A]	[V]	[mΩ]	[°C/W]		[°C]	
SHXC450	2 - 18	450	95	700	4900	120	1.52	1500	0.70	0.700	0.1120	0.015	170	CD1
SHXC540		540	91	850	6000	180	1.85	1600	0.75	0.650	0.0900	0.015		CD1
SHXC760	2 - 6	760	104	1200	8500	361	1.39	2000	0.70	0.300	0.0790	0.015	180	CD1
SHXC1130	2 - 18	1130	65	1775	11000	605	1.83	3000	0.78	0.350	0.0450	0.015	160	CD2
SHXC1850		1850	63	2900	20500	2100	1.44	3000	0.74	0.200	0.0380	0.005	180	CD3
SHXC2230	2 - 6	2230	109	3500	25000	3125	1.10	3000	0.70	0.100	0.0255	0.005		CD3
SHXXC2300	2 - 44	2300	71	3600	26000	3380	1.70	3000	0.88	0.245	0.0170	0.005	160	CD4
SHXXC2500	2 - 26	2500	90	3925	26000	3380	1.30	3000	0.87	0.127	0.0220	0.004	150	CD5
SHXXC6400	2 - 6	6400	85	10048	55000	15125	0.88	4500	0.70	0.040	0.0170	0.005	190	CD6

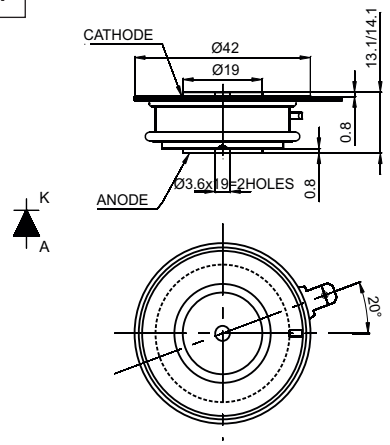
Fast Recovery Diode

Type	V_{RRM} ×100	$I_{f(av)}$ / T_c		I_{frms}	I_{FSM} 10 mS $T_{j\ max}$	I^2t	V_{pk} / I_{pk} at T_{jmax}		V_o	r	R_{th} (j-c)	(c-h)	T_{jmax}	Fig No
	[V]	[A]	[^{0}C]	[A]	[A]	[kA^2sec]	[V]	[A]	[V]	[mΩ]	[°C/W]		[°C]	
HD368SXX	2 - 14	368	100	730	5200	135.20	2.25	1400	1.00	0.80	0.08	0.015	150	CD1

* for further details refer individual datasheets @ www.hirect.com

Rectifier Diodes

CD1



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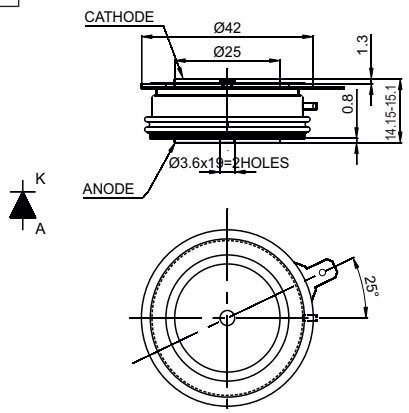

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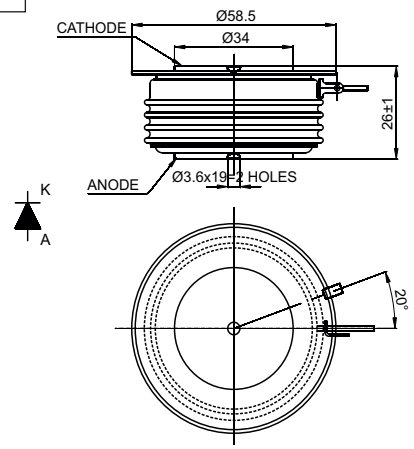

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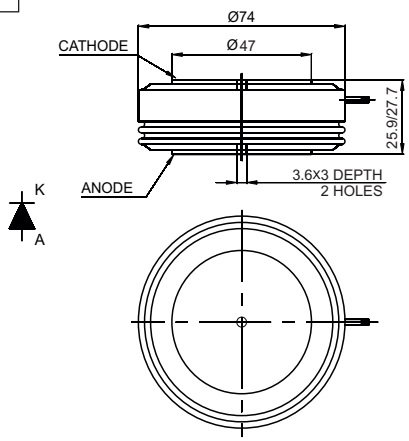

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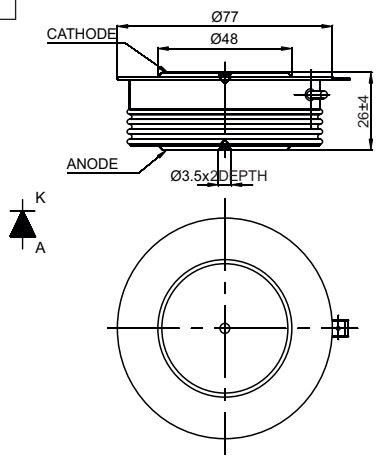

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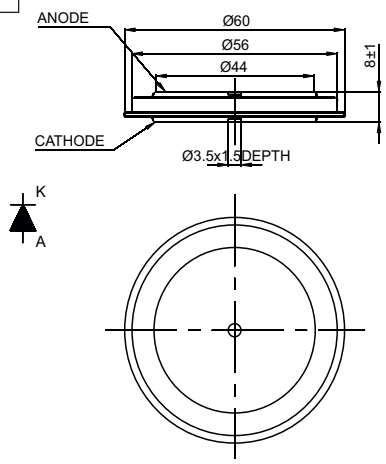


Diode Modules

Diode- Diode Modules - Isolated base													
Type	V_{RRM} ×100	$I_{f(av)}$ / T_c		I_{frms}	I_{frms} 10ms @T_{jmax}	I^2t	Vpk / Ipk at 25°C		V_o	r	$R_{th(J-C)}$ /chip	$R_{th(C-H)}$ /module	T_{jmax}	Fig No
	[V]	[A]	[°C]	[A]	[kA]	[kA^2sec]	[V]	[A]	[V]	[mΩ]	[°C/W]	[°C/W]	[°C]	
HDD25N	2 - 18	25	100	40	0.50	1.25	1.40	80	0.85	6.00	1.00	0.10	150	DD1
HDD56N		55	100	85	1.15	9.80	1.40	175	0.85	4.00	0.50	0.10		DD1
HDD95N		95	100	150	2.10	21.00	1.45	300	0.91	1.86	0.39	0.10		DD1
HDD100N		100	100	165	2.50	31.25	1.30	325	0.80	1.50	0.39	0.10		DD1
HDD170N		170	100	270	5.60	157.00	1.25	535	0.77	0.80	0.26	0.03		DD2
HDD250N		250	100	395	8.30	344.00	1.40	785	0.70	0.68	0.17	0.02		DD3
HDD350N		350	100	550	11.00	605.00	1.45	1100	0.75	0.40	0.13	0.02		DD3

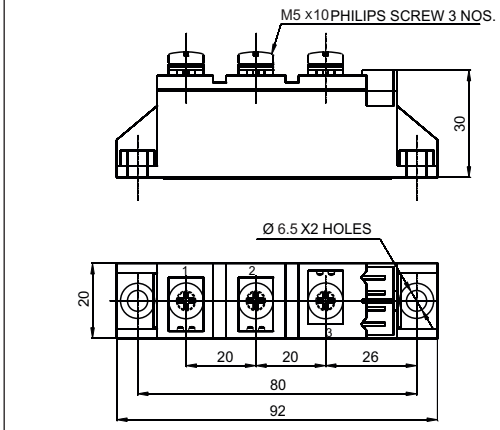
Single Phase bridges (Isolated base)												
Type	V_{RRM} ×100	I_{DC}/T_c		I_{frms} 10ms T_{jmax}	I^2t	Vpk /Ipk at 25°C		V_o	r	$R_{th(J-C)}$ /Diode	$R_{th(C-H)}$ /bridge	T_{jmax}	Fig No
	[V]	[A]	[°C]	[A]	[kA^2sec]	[V]	[A]	[V]	[mΩ]	[°C/W]	[°C/W]	[°C]	
MB35	2 - 12	30	67	550	1.25	1.30	50	0.8	8	5.40	1.350	150	DB1
HB62		50	85		9.80	1.50	75		8	1.93	0.310		DB3
HB82		80	85	750	2.80	1.50	125		6	1.60	0.483		DB3

Three phse bridge (Isolated base)												
Type	V_{RRM} ×100	I_{DC}/T_c		I_{fsm} 10ms T_{jmax}	I^2t	Vpk /Ipk at 25°C		V_o	r	$R_{th(J-C)}$ /Diode	$R_{th(C-H)}$ /bridge	T_{jmax}	Fig No
	[V]	[A]	[°C]	[A]	[kA^2sec]	[V]	[A]	[V]	[mΩ]	[°C/W]	[°C/W]	[°C]	
HD35	2 - 12	35	62	550	1.50	1.7		0.8	7.5	8.40	1.400	150	DB2
HD62		63	100	550	1.52	1.50	75		8.0	1.87	0.310	150	DB3
HD82		82	100	750	2.18	1.30	75		5.0	1.52	0.253	150	DB3
HD162		160	100	1800	16.20	1.55	185		3.0	0.83	0.140	150	DB4

* for further details refer individual datasheets @ www.hirect.com

Diode Modules

DD1



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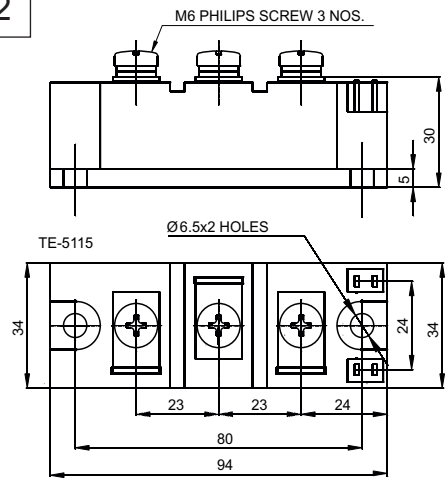

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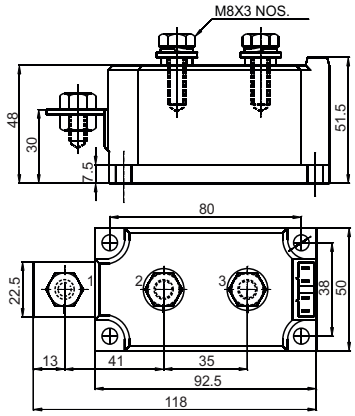

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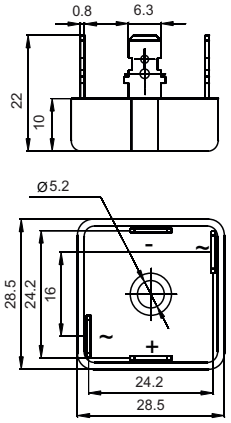

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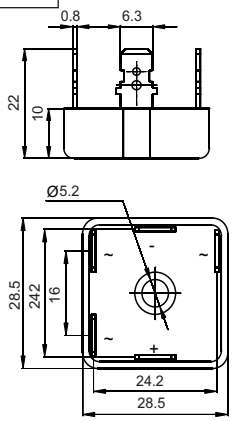

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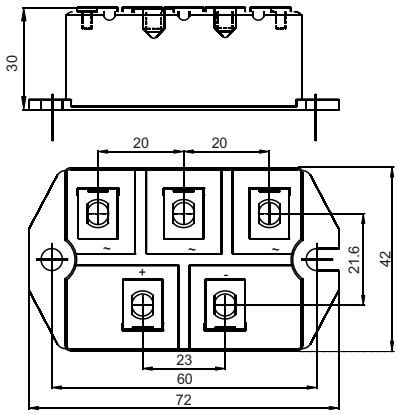

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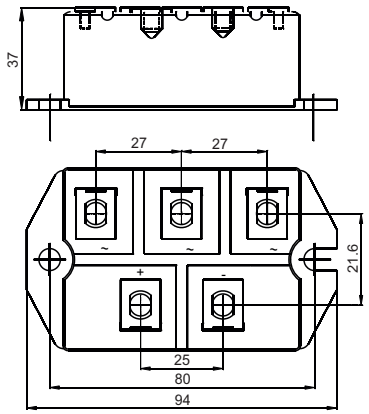


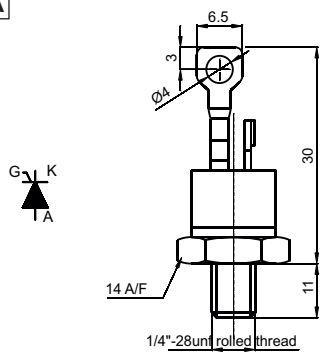
Phase Control Thyristors

Top Hat Type

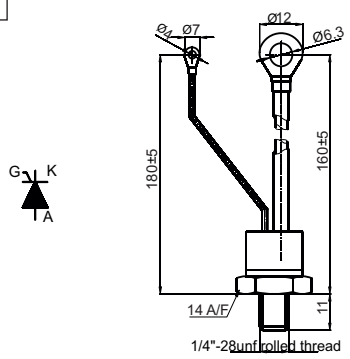
Type	V_{DRM} / V_{RRM} ×100	$I_{T(av)}$/T_c		I_{trms}	V_{pk} / I_{pk} at T_{jmax}		I^2t	I_{tsm} 10m T_{jmax}	V_o	r	R_{th} (j-c)	(c-h)	T_{jmax}	Fig No
	[V]	[A]	[°C]	[A]	[V]	[A]	[kA^{2}sec]	[kA]	[V]	[mΩ]	[°C/W]		[°C]	
H16TL/TB	2 - 15	16	85	25	2.05	53	0.61	0.35	1.10	16.00	1.400	0.300	125	TH1-A/B
H30TL/TB		30	85	50	1.72	100	1.25	0.50	0.95	6.40	0.930	0.300		TH1-A/B
H45TB		45	85	70	1.72	150	3.20	0.80	0.95	4.50	0.600	0.200		TH2
H55TB	2 - 16	55	75	85	1.82	175	4.05	0.90	0.90	4.35				TH2
H65TB	2 - 15	65	75	100	1.87	200	5.00	1.00	0.87	4.10	0.500	0.200		TH2
H85TB	2 - 16	85	85	135	1.75	265	13.60	1.65	1.20	2.60	0.270	0.080		TH3
H125TB		125	70	195	2.00	400	31.00	2.50	1.20	1.90	0.245	0.080		TH4
H150TB		150	70	235	1.80	470	45.00	3.00	0.90	1.80	0.234	0.080		TH5
H175TB	2 - 16	175	85	275	1.76	550	106.00	4.60	1.08	1.30	0.135	0.040		TH6
H250TB	2 - 18	250	78	392	1.75	785	106.00	4.60	0.92	0.99	0.120	0.040		TH6
H285TB	2 - 60	285	82	450	1.70	1000	211.00	6.50	0.80	0.75	0.113	0.050		TH6
H300TB	2 - 16	300	85	470	1.65	1000	281.00	7.50	1.04	0.61	0.080	0.020		TH7
H350TB		350	85	550	1.65	1100	320.00	8.00	0.80	0.50				TH7
H400TB		400	85	628	1.45	1260	500.00	10.00	0.90	0.40	0.076	0.015		TH8
H500TB		500	75	785	1.60	1570	720.00	12.00	0.90	0.35				TH8
H650TB	2 - 60	650	70	1020	1.35	2000	980.00	14.00	1.00	0.12	0.070	0.015		TH9

* for further details refer induvidual datasheets @ www.hirect.com

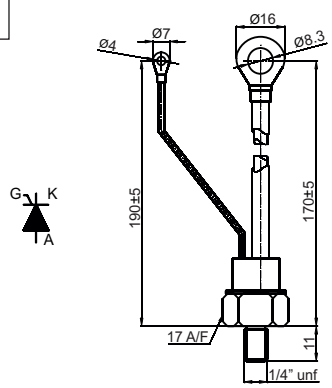
TH1A



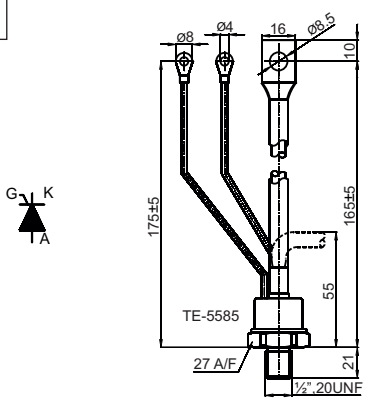
TH1B



TH2

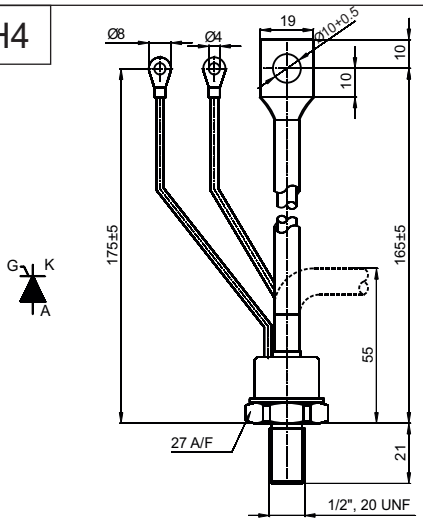


TH3

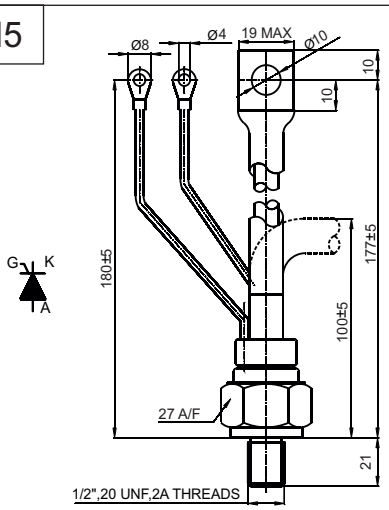


Phase Control Thyristors

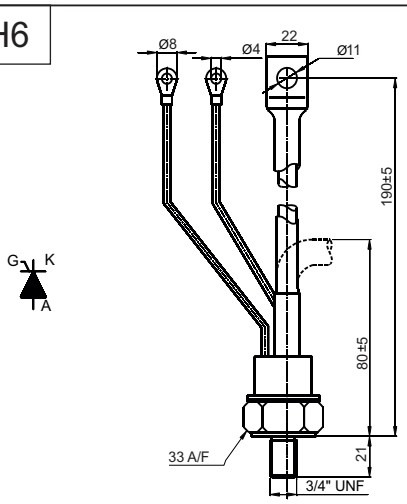
TH4



TH5



TH6



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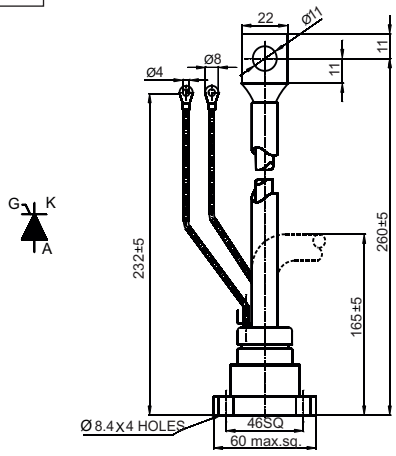

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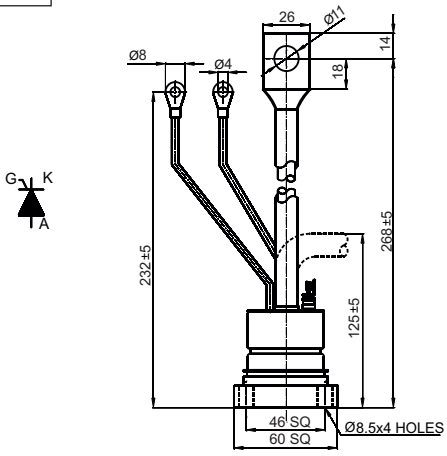

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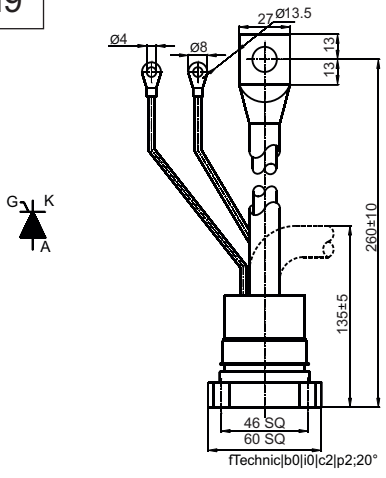


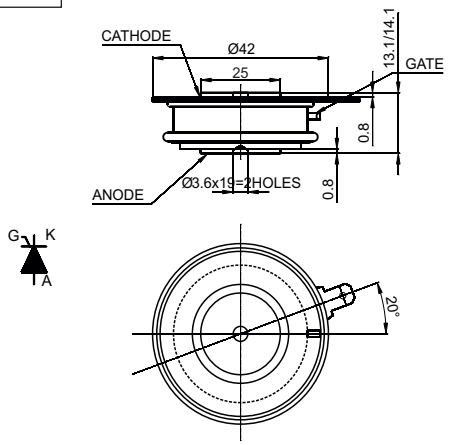
Phase Control Thyristors

Capsules											
Type	V_{DRM} / V_{RRM}	$I_{T(av)}/T_c$	I_{trms}	V_{pk} /I_{pk} at T_{jmax}	I^2t	I_{tsm} 10mS T_{jmax}	V_o	r	R_{th} (j-c) (c-h)	T_{jmax}	Fig No
	[V]	[A] [°C]	[A]	[V] [A]	[kA^{2}sec]	[kA]	[V]	[mΩ]	[°C/W]	[°C]	
H445CH	2 - 16	445 69	700	2.07 1200	106	4.60	0.85	0.900	0.0680 0.015		CH1
H507CH	2 - 14	507 85		1.92 1600	320	8.00	0.80	0.600	0.0530 0.015		CH2
H955CH	2 - 16	955 64	1500	2.00 3000	781	12.50	0.85	0.350	0.0380 0.005	125	CH3
H1450CH	2 - 28	1450 82	2280		4500	30.00	0.97	0.270	0.0150 0.005		CH4
H1500CH	2 - 18	1500 63	2355	1.55 3000	2420	22.00	0.84	0.195	0.0265 0.005		CH4
H1590CH	2 - 60	1590 65	2500	1.37 3000	2000	20.00	1.00	0.100	0.0330 0.005	140	CH3
H1800CH	2 - 20	1800 54	2830	1.68 3000	2880	24.00	1.05	0.185	0.0210 0.005		CH4
H2000CH	2 - 18	2000 73	3140	1.45 3000	6480	36.00	0.82	0.180	0.0150 0.005		CH4
H2900CH	2 - 25	2900 78	4550	1.42 3000	7683	39.20	0.85	0.175	0.0090 0.002	125	CH5
H3200CH	2 - 20	3200 68	5000	1.30 3000	12701	50.40	0.95	0.127	0.0090 0.002		CH5
H4350CH	2 - 14	4350 85	6829	1.18 4000	18000	60.00	0.88	0.075	0.0095 0.002		CH6

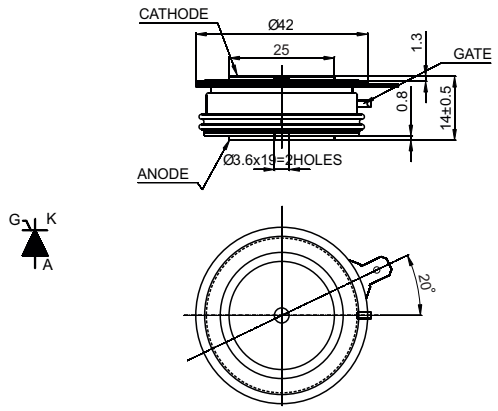
* for further details refer induvidual datasheets @ www.hirect.com

Phase Control Thyristors

CH1



CH2



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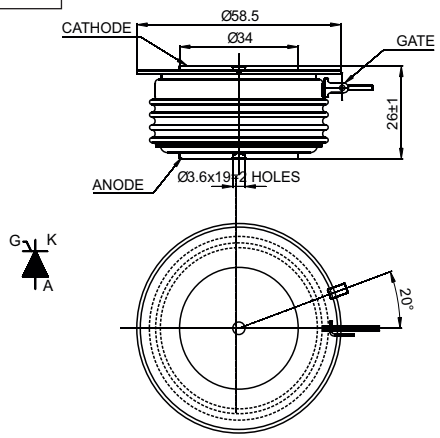

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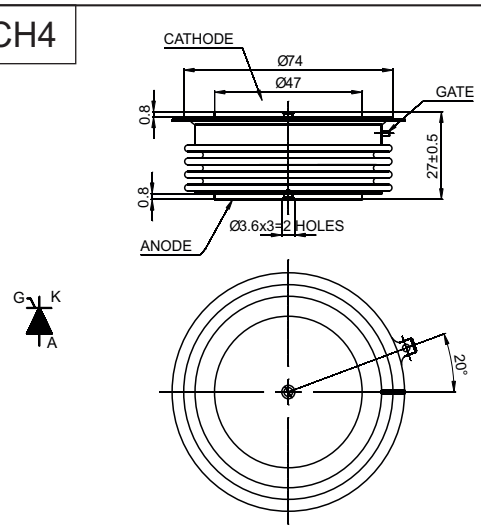
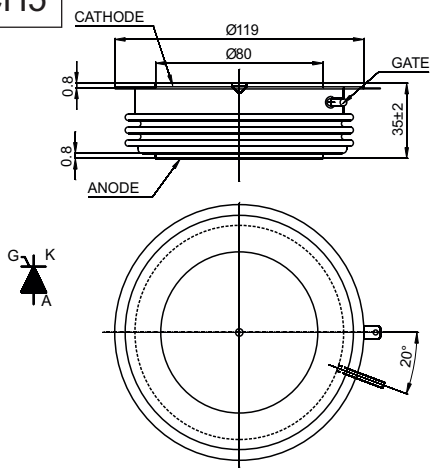
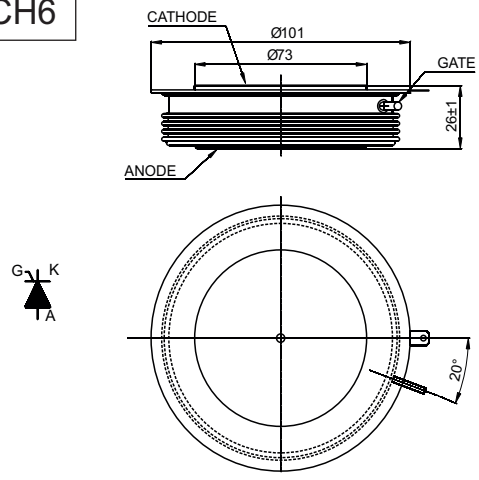


CH5



CH6



Thyristors Modules

Modules (Isolated Base)

Type	V_{DRM} / V_{RRM} ×100	$I_{T(av)}$ / T_c		I_{trms}	V_{pk} /I_{pk} at T_{jmax}		I^2t	I_{tsm} 10m @T_{jmax}	V_o	r	$R_{th(J-C)}$ /chip	$R_{th(C-H)}$ /module	T_{jmax}	Fig No
	[V]	[A]	[°C]	[A]	[V]	[A]	[kA^{2}sec]	[kA]	[V]	[mΩ]	[°C/W]	[°C/W]	[°C]	
HTT/HTD25N	2 - 18	25	85	40	1.80	80	1.06	0.46	1.00	11.00	0.92	0.10	125	TT1
HTT/HTD40N		40	85	65	1.80	125	2.45	0.70	0.88	5.80	0.69	0.10		TT1
HTT/HTD55N		55	85	85	1.60	175	7.81	1.25	0.90	3.50	0.55	0.10		TT1
HTT/HTD76N		75	85	120	1.60	235	10.51	1.45	0.82	2.60	0.39	0.10		TT1
HTT/HTD90N		90	85	140	1.60	300	14.45	1.70	0.84	2.10	0.38	0.10	130	TT1
HTT/HTD116N		116	85	180	1.75	300	24.00	2.20	0.80	2.40	0.22	0.10	125	TT1
HTT/HTD132N		130	85	205	1.50	410	51.20	3.20	0.85	1.50	0.23	0.03		TT2
HTT/HTD162N		162	85	255	1.50	500	96.80	4.40	0.85	0.95	0.20	0.03		TT2
HTT/HTD170N		170	85	265	1.54	550	106.00	4.60	0.95	1.00	0.17	0.02		TT3
HTT/HTD250N		250	85	395	1.55	800	245.00	7.00	0.80	0.70	0.13	0.02		TT3

3 Thyristor Modules (Non-Isolated Base)

Type	V_{DRM} / V_{RRM} ×100	$I_{T(av)}$ / T_c		I_{trms}	V_{pk} /I_{pk} at 25^{0}C		I^2t	I_{tsm} 10mS T_{jmax}	I_{GT}	V_{GT}	$R_{th(J-C)}$ /chip	$R_{th(C-H)}$ /module	T_{jmax}	Fig No
	[V]	[A]	[°C]	[A]	[V]	[A]	[kA^{2}sec]	[KA]	[mA]	[V]	[°C/W]	[°C/W]	[°C]	
H3T80N	2 - 4	80	116	125	1.20	240	26	2.28	150	2.00	0.35	0.03		TT4
H3T130N		130	112	204	1.20	410	51	3.20			0.20	0.03		TT4
H3T200N		200	121	314	1.20	630	145	5.40			0.12	0.03		TT5

Single Phase Half Controlled Bridge

Type	V_{DRM} / V_{RRM} ×100	$I_{T(av)}$ / T_c		I_{trms}	V_{pk} /I_{pk} at T_{jmax}		I^2t	I_{tsm} 10mS T_{jmax}	V_o	r	$R_{th(J-C)}$ /chip	$R_{th(C-H)}$ /module	T_{jmax}	Fig No
	[V]	[A]	[°C]	[A]	[V]	[A]	[kA^{2}sec]	[kA]	[V]	[mΩ]	[°C/W]	[°C/W]	[°C]	
HCH40	8 - 12	40	85	28	1.45	45	0.5	320	0.85	13.00	1.15	0.20	125	TT6

High Voltage modules (Isolated Base)

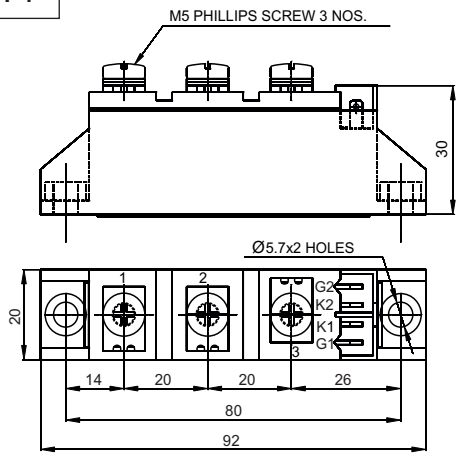
Type	V_{DRM} / V_{RRM} ×100	$I_{T(av)}$ / T_c		I_{trms}	V_{pk} /I_{pk} at 25^{0}C		I^2t at 45^{0}C.	I_{tsm} 10mS T_{jmax}	V_o	r	$R_{th(J-C)}$ /chip	$R_{th(C-H)}$ /module	T_{jmax}	Fig No
	[V]	[A]	[°C]	[A]	[V]	[A]	[kA^{2}sec]	[KA]	[A]	[mΩ]	[°C/W]	[°C/W]	[°C]	
HTT70N	2 - 24	70	85	110	1.65	320	13.50	1.60	0.85	3.20	0.300	0.10	125	TT1
HTT100N	2 - 22	100	85	157	1.74	300	14.45	1.70	0.85	3.20	0.220	0.03		TT1
HTT165N		165	85	259	1.36	300	180.00	6.00	0.80	1.60	0.155	0.03		TT2

* Pressure contact devices available on request

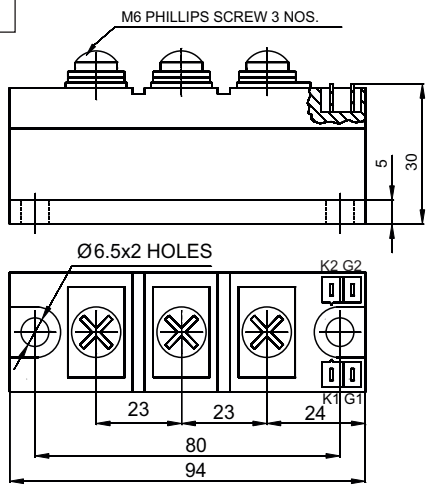
* for further details refer induvidual datasheets @ www.hirect.com

Thyristor Modules

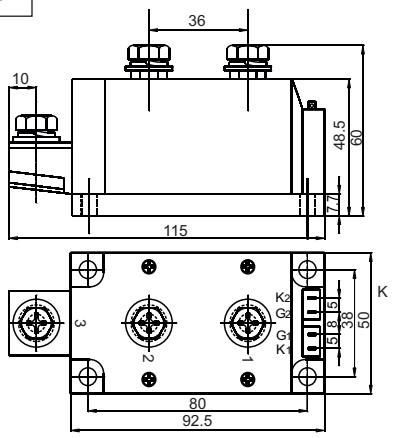
TT1



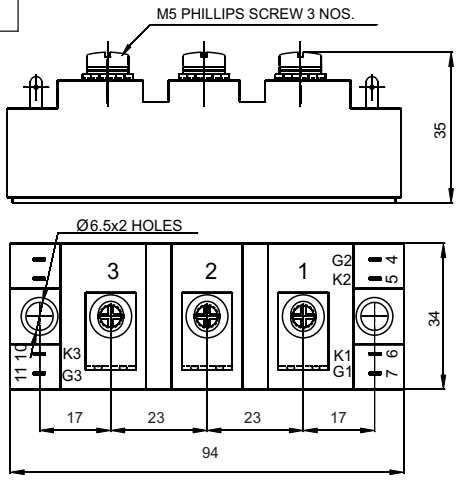
TT2



TT3

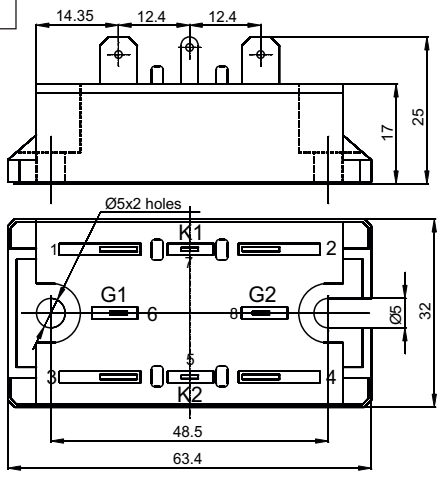


TT4



TT5

TT6



Fast Turn-off Thyristors

Top Hat Type

Type	V_{DRM} / V_{RRM} ×100	$I_{T(av)}$ / T_c	I_{Tsm} 10mS T_{jmax}	I^2t	V_{pk} /I_{pk} at T_{jmax}	I_{GT}/V_{GT} T_j =125°C.	Tq	Reapplied dv/dt	T_{jmax}	Fig No
	[V]	[A] [°C]	[kA]	[kA^2sec]	[V] [A]	[mA] [V]	[µSec]	[V/MSec]	[°C]	
HF80TB	2 - 12	80 85	2.45	30	2.40 400	150 / 2.5	20-25	D,F,H	125	TH10
HF120TB		120 85	2.90	42	2.20 500			D,F		TH11
HF196TB		195 85	6.00	180	2.05 800	250 / 2.5		D,F		TH12

Capsules (Center gate type)

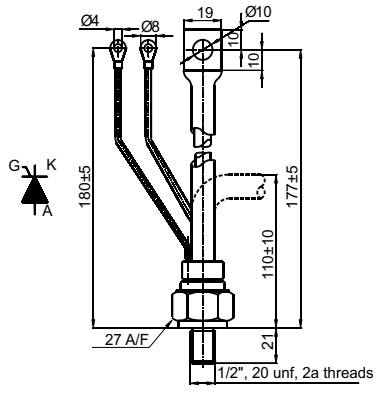
Type	V_{DRM} / V_{RRM} ×100	$I_{T(av)}$ / T_c	I_{Tsm} 10mSec T_{jmax}	I^2t A^2sec	V_{pk} /I_{pk} at T_{jmax}	I_{GT}/ V_{GT} T_j =125°C.	Tq	Reapplied dv/dt	T_{jmax}	Fig No
	[V]	[A] [°C]	[kA]	[kA^2sec]	[V] [A]	[mA] [V]	[µSec]	[V/MSec]	[°C]	
HF188CH	2 - 12	188 85	2.90	42	2.2 800	250 / 2.5	20-25	D,F	125	FH1
HF408CH		408 85	6.40	205	2.3 1400	250 / 2.5				FH2

Capsules (Distributed gate type)

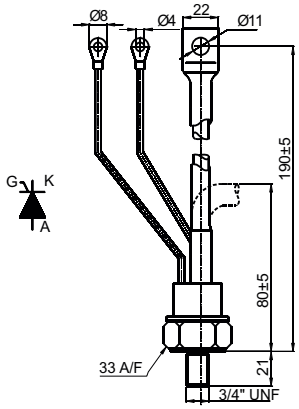
Type	V_{DRM} / V_{RRM} ×100	$I_{T(av)}$/T_c	I_{Tsm} 10mSec T_{jmax}	I^2t	V_{pk} /I_{pk} at T_{jmax}	I_{GT}/ V_{GT} T_j =125°C.	Tq	Reapplied dv/dt	T_{jmax}	Fig No
	[V]	[A] [°C]	[kA]	[kA^2sec]	[V] [A]	[mA] [V]	[µSec]	[V/MSec]	[°C]	
HS800CH	15	800 55	10.00	500	2.30 1600	250 / 3.0	20-25	500	125	FH3
HS1250CH	16-20	1250 55	14.00	980	2.00 2000	300 / 3.0	40-55	500		FH4
HS2550CH		2500 55	37.20	6920	2.15 4000		60-80	1000		FH5

* for further details refer induvidual datasheets @ www.hirect.com

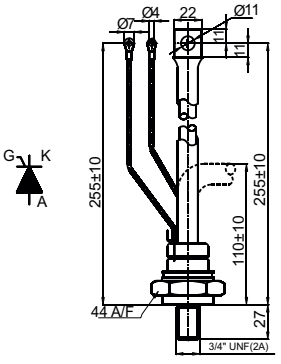
TH10



TH11

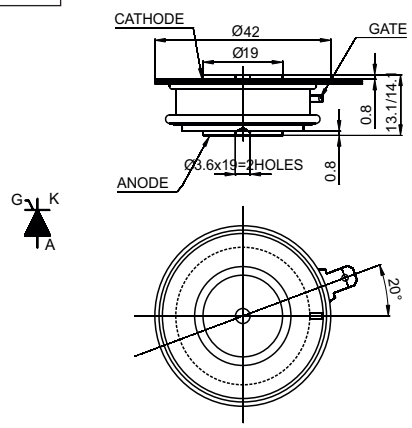


TH12

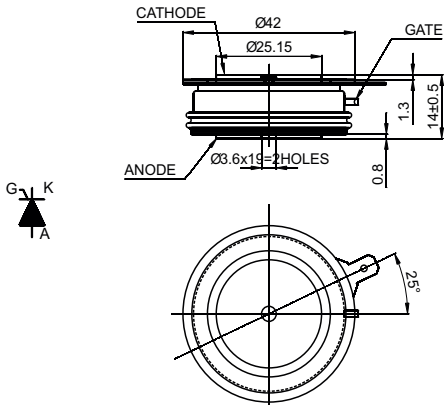


Fast Turn-off Thyristors

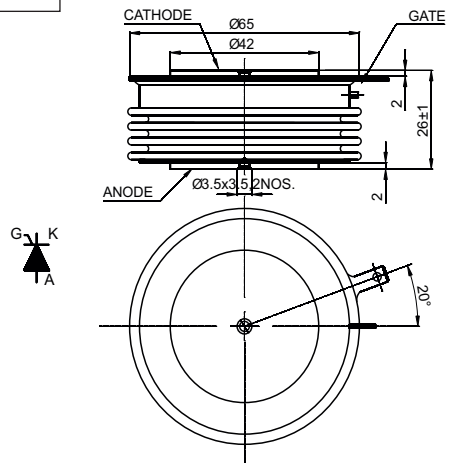
FH1



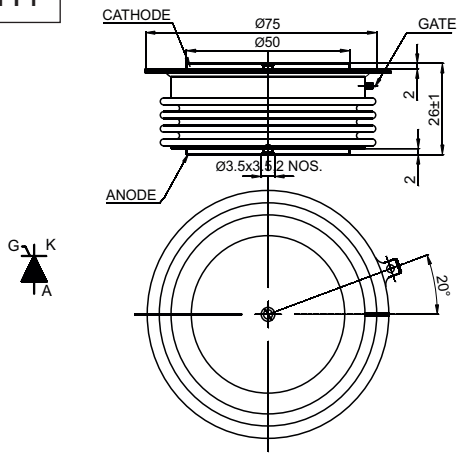
FH2



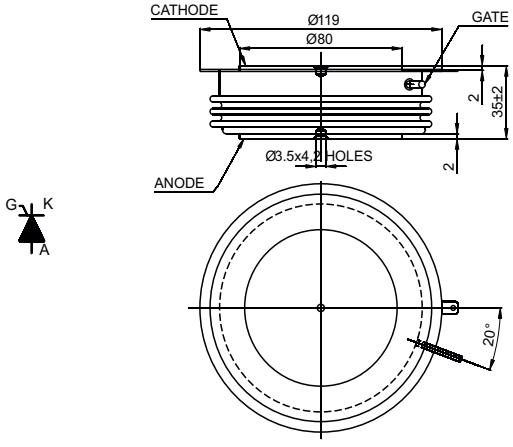
FH3



FH4



FH5



Power Stacks

Thyristor Stack (B6C)

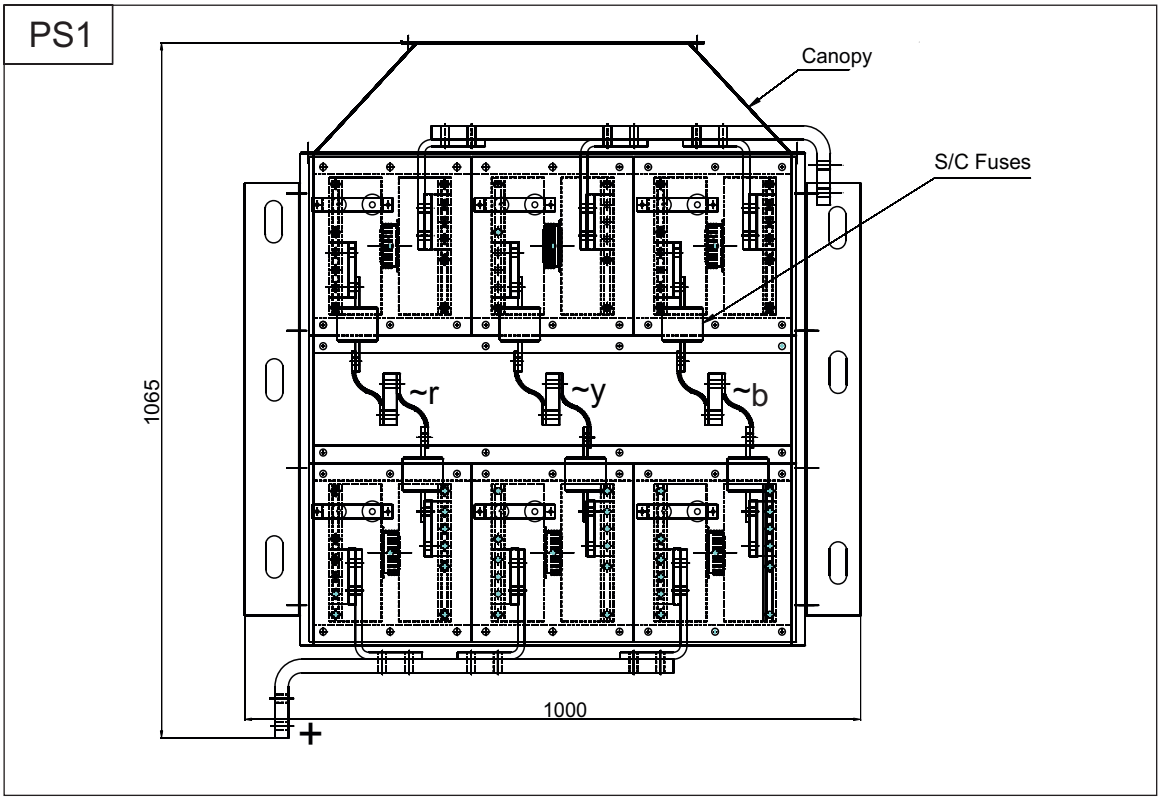
Sr No	Device type	I/P Voltage	Class - I 100% cont.	Class - II 150% for 1 minute	Class - IV 125% for 2 hrs 200% for 10 secs	Class - V 150% for 2 hrs 200% for 1 Min	Class - VI 150% for 2 Hrs 300% for 1 Mn	Arm Fuse (For Class II) Fuse Type	Fuse Rating	Recommanded Panel size in mm (w x d x h)
1	H445CH16	450V	800A	560A	440A	410A	280A	170M3269	400A /690V	800 x 800 x 2200
2	H505CH16	450V	860A	600A	475A	450A	340A	170M3270	450A/690V	800 x 800 x 2200
3	H509CH18	500V	1010A	710A	575A	525A	360A	170M3271	500A/690V	800 x 800 x 2200
4	H955CH16	450V	1375A	975A	800A	725A	500A	170M4267	700A/690V	800 x 800 x 2200
5	H1800CH18	500V	1675A	1225A	1025A	900A	640A	170M5265	900A/690V	800 x 800 x 2200
6	H2000CH18	500V	2090A	1540A	1325A	1125A	800A	170M5267	1100A/690V	800 x 800 x 2200
7	H1800CH18	500V	2350A	1740A	1360A	1275A	910A	170M5268	1250A/690V	1000 x 800 x 2200
8	H2000CH18	500V	2990A	2225A	1770A	1625A	1175A	170M6269	1600A/690V	1000 x 800 x 2200
9	H3200CH20	550V	3675A	2850A	2325A	2050A	1525A	170M7082	2000A/690V	1000 x 800 x 2200
10	H2900CH25	700V	3550A	2375A	2225A	1975A	1475A	2X170M6247	2X900A/1250V	1000 x 800 x 2200
11	H1450CH28	750V	1740A	1275A	1100A	925A	670A	170M6247	900A/1250V	800 x 800 x 2200
12	H1450CH28	750V	2475A	1850A	1470A	1350A	975A	170M6251	1400A/1100V	1000 x 800 x 2200
13	H1663CH36	1000V	2350A	1450A	1400A	1275A	925A	170M6723	1000A/1500V	1000 x 800 x 2200

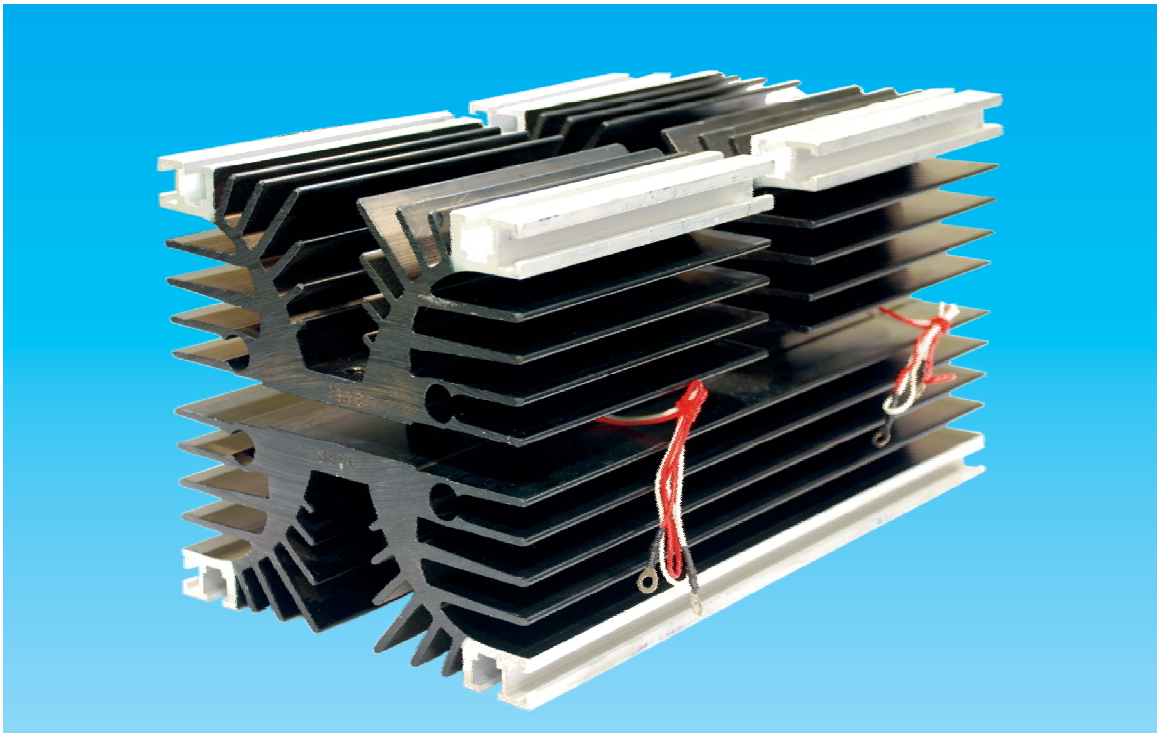
Diode Stack (B6U)

Sr No	Device type	I/P Voltage	Class - I 100% cont.	Class - II 150% for 1 minute	Arm Fuse (For Class II) Fuse Type	Fuse Rating	Recommanded Panel size in mm (w x d x h)
1	SH16C540	415Vac	1200A	800A	170M3272	550A/690V	800 X 800 X 2200
2	SH18C1130	415Vac	1800A	1200A	170M5265	900A/690V	800 X 800 X 2200
3	SH18C1850	415Vac	2500A	1800A	170M5268	1250A/690V	800 X 800 X 2200
4	SH18C2500	660Vac	3000A	2000A	170M6251	1400A/1100V	800 X 800 X 2200

NOTE: - Current Ratings are valid for Forced cooling of 5 m/sec air outlet and ambient temp of 45^0C

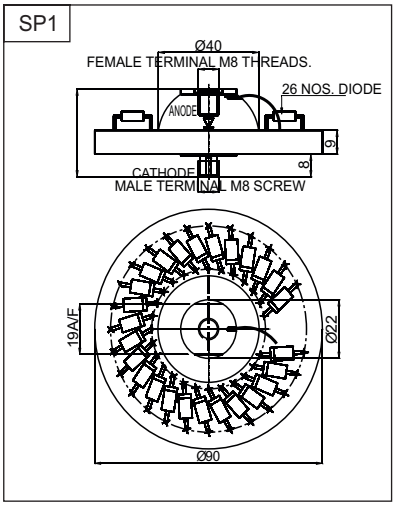
Power Stacks





Special Products

High Voltage Disks			
Type	Voltage	Current	Fig No
	[V]	[A]	
HVD19K/0.65	19K	0.65 A	SP1



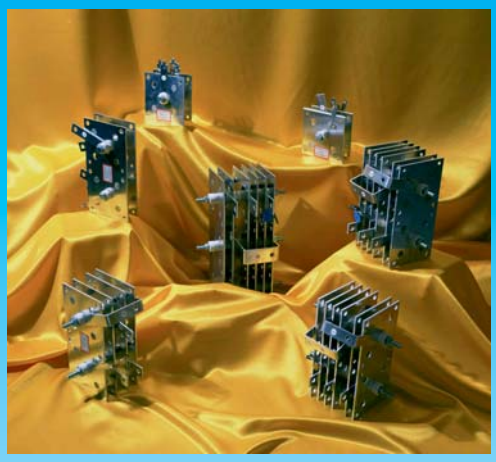
Water cooled Assemblies					
Thyristors	V_{DRM} / V_{DRM}	I_{RMS} / T_{WATER}	I_{TSM}	Weight	Fig No
			Sine wave 10 ms		
	[V]	[A / ^{0}C]	[kA]	[g]	
2 X H505	1600	625 / 40	5.6	2540	W1
2 X H604	1600	880 / 40	6.5	2600	
2 X H955	1600	1120 / 40	12.5	3000	W2
2 X H1500	1600	1500 / 40	24.6	8500	W3
2 X H2000	1600	1810 / 40	36.0	8500	

Water Flow Rate - 4.5L /min
Max Water Pressure - 10 Bar

NOTE: - dv/dt - 1000V/µSec available on request

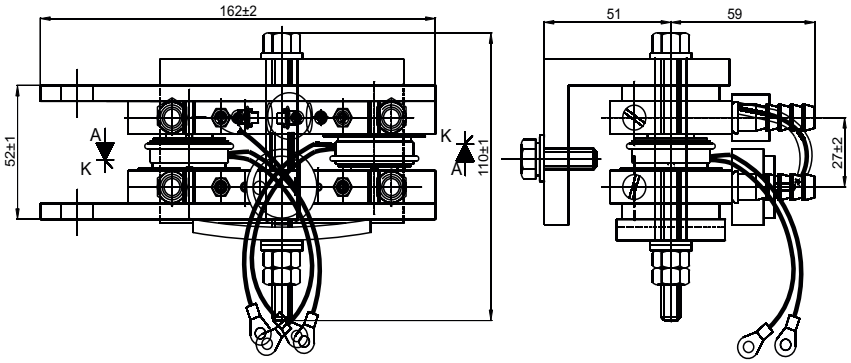
3 Phase Press Fit Diode Stack For Welding Application					
Type	I_n	V_{OUT}	E_d	Air Speed	V_{RRM}
	[A]	[V]	[%]	[M/s]	[V]
PTS 240	240	100	60	4	400
PTS 400	400	100	60	4	400
PTS 600	600	100	60	4	400

Current rating other than the above are available on request

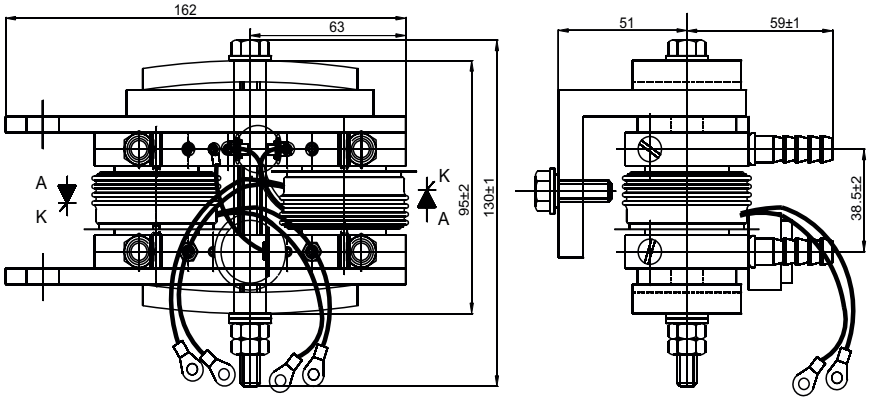


Special Products

W1



W2



W3

IGBT Sacks

HIRECT now offer reliable and highest quality IGBT based SAFEStacks and assemblies with best thermal management. This will help optimize system costs and shorten the time to manufacture final equipment.

SAFE Stack is a complete switch assembly for power electronic circuits. It contains all components necessary for current, voltage and temperature feedback. The 62mm Infineon make IGBT modules are used along with the superior and most reliable Eice Driver, which provides quality and reliability to SAFEStacks.

HIRECT CAN NOW CONTRIBUTE TO YOUR SUCCESS BY

1. Shortening production time due to ready to use power section.
2. Reduce system cost.
3. Modular designs offer flexible systems for power solutions
4. Suitable for industrial standard design cabinets.
5. Optimised thermal designs.
6. Can be readily paralleled for easy expansions.
7. Low inductance IGBT Stack designs.
8. Various power electronic designs can be offered.

USEFUL IN APPLICATIONS

1. Drives and Elevators
2. Renewable Energy and Distributed Power Generation Systems
3. Un-interrupted Power Supplies (UPS)
4. Traction Drives
5. Medical Equipments
6. Energy Treatment and HVDC conversion
7. Electrolysis and Electroplating
8. Pulsed Power

AVAILABLE IN RATINGS 1000AMPS TO 1600AMPS AND WITH IGBTs OF 600, 1200 AND 1700 VOLTS.

By this technology tie-up, world class technology product is now locally available for manufacturers of heavy duty drives, distributed power generators & industrial application in the form of HIRECT make SAFEStacks & assemblies.