



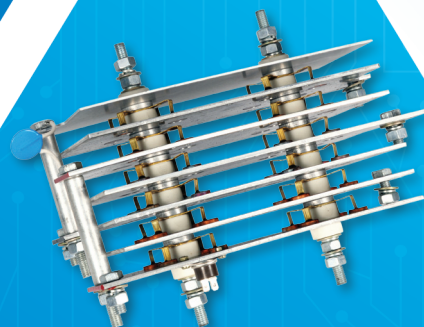
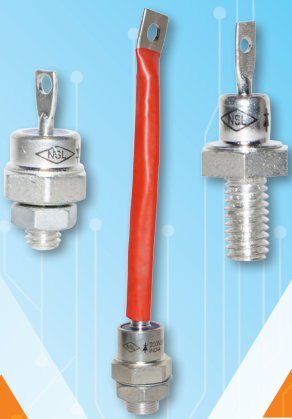
NAINA SEMICONDUCTOR LTD.



DISCRETE SEMICONDUCTOR DEVICES



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POWER DIODES

Standard Recovery Diodes – NS, NS(R) SERIES

PART NO.	V _{RRM} (V)	I _{F(AV)} (A)	V _{FM} (V)	I _{FSM} (A)	R _{TH (J-C)} (°C/W)	F _M (Nm)	PACKAGE	OUTLINE
6NS(R)	100-1600	6	1.2	175	2	2	DO-4	F1
12NS(R)	100-1600	12	1.2	250	2	2	DO-4	F1
16NS(R)	100-1600	16	1.3	300	1.6	2	DO-4	F1
25NS(R)	100-1600	25	1.3	400	1.5	4	DO-5, DO-5 Pigtail	F2, F3
40NS(R)	100-1600	40	1.3	500	1	4	DO-5, DO-5 Pigtail	F2, F3
55NS(R)	100-1600	55	1.3	850	0.55	4	DO-5, DO-5 Pigtail	F2, F3
70NS(R)	100-1600	70	1.3	1200	0.5	4	DO-5, DO-5 Pigtail	F2, F3
85NS(R)	100-1600	85	1.3	1700	0.5	4	DO-5, DO-5 Pigtail	F2, F3
100NS(R)	100-1600	100	1.3	2200	0.45	10	DO-8 Flat DO-8 Stud	F4, F5
125NS(R)	100-1600	125	1.3	3100	0.3	10	DO-8 Flat DO-8 Stud	F4, F5
130NS(R)	100-1600	130	1.3	3100	0.27	10	DO-8 Flat DO-8 Stud	F4, F5
150NS(R)	100-1600	150	1.4	3100	0.27	10	DO-8 Flat DO-8 Stud	F4, F5
200NS(R)	100-1600	200	1.4	4000	0.23	10	DO-8 Flat DO-8 Stud	F4, F5
250NS(R)	100-1600	250	1.4	4500	0.2	30	DO-9 Flat, DO-9 Stud	F6, F7
300NS(R)	100-1600	300	1.4	5000	0.18	30	DO-9 Flat, DO-9 Stud	F6, F7
320NS(R)	100-1600	320	1.4	6100	0.16	30	DO-9 Flat, DO-9 Stud	F6, F7
400NS(R)	100-1600	400	1.4	8250	0.15	30	DO-9 Flat, DO-9 Stud	F6, F7

FAST RECOVERY DIODES – NSF, NSF(R) SERIES

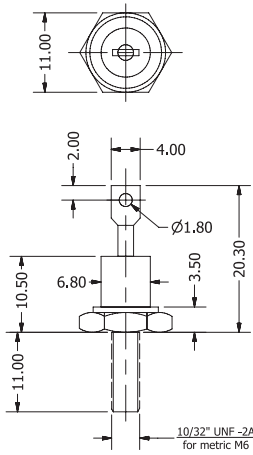
PART NO.	V _{RRM} (V)	I _{F(AV)} (A)	V _{FM} (V)	I _{FSM} (A)	T _{rr} (ns)	F _M (Nm)	PACKAGE	OUTLINE
12NSF(R)	100-1600	12	1.4	150	350	2	DO-4	F1
16NSF(R)	100-1600	16	1.4	210	350	2	DO-4	F1
25NSF(R)	100-1600	25	1.4	350	350	4	DO-5, DO-5 Pigtail	F2, F3
40NSF(R)	100-1600	40	1.5	520	350	4	DO-5, DO-5 Pigtail	F2, F3
70NSF(R)	100-1600	70	1.6	720	300	4	DO-5, DO-5 Pigtail	F2, F3
135NSF(R)	100-1600	135	1.7	2500	300	10	DO-8 Flat, DO-8 Stud	F4, F5
140NSF(R)	100-1600	140	1.7	2600	300	10	DO-8 Flat, DO-8 Stud	F4, F5

SCHOTTKY DIODES

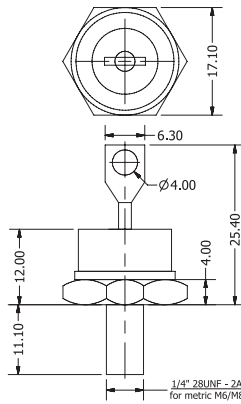
Stud Type

PART NO.	V _{RRM} (V)	I _{F(AV)} (A)	I _{FSM} (A)	I _R (mA)	R _{TH (J-C)} (°C/W)	F _M (Nm)	PACKAGE	OUTLINE
1N5826 thru 1N5828R	20-40	15	500	10	1.8	2	DO-4	F1
1N5829 thru 1N5831R	20-35	25	800	20	1.8	2	DO-4	F1
1N6095 thru 1N6096R	30-40	25	400	20	1.8	2	DO-4	F1
1N5832 thru 1N5834R	20-40	40	800	20	1.5	4	DO-5	F2
1N6097 thru 1N6098R	30-40	50	800	10	1	4	DO-5	F2
MBR3520 thru MBR3540R	20-40	35	600	25	1.5	2	DO-4	F1
MBR3545 thru MBR35100R	45-100	35	600	25	1.5	2	DO-4	F1
MBR6020 thru MBR6040R	20-40	60	700	150	1	4	DO-5	F2
MBR6045 thru MBR60100R	45-100	60	700	150	1	4	DO-5	F2
MBR7520 thru MBR7540R	20-40	75	1000	150	1	4	DO-5	F2
MBR7545 thru MBR75100R	45-100	75	1000	150	1	4	DO-5	F2
MBR8020 thru MBR8040R	20-40	80	1000	250	1	4	DO-5	F2
MBR8045 thru MBR80100R	45-100	80	1000	250	1	4	DO-5	F2
SD41	35	30	600	25	1.5	2	DO-4	F1
SD51	45	60	800	200	1	4	DO-5	F2

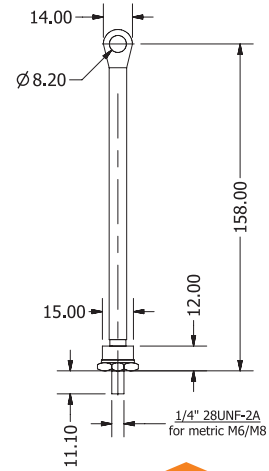
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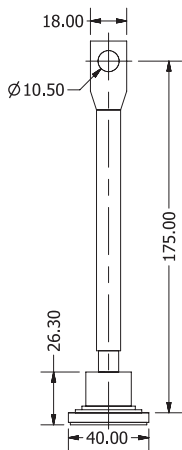
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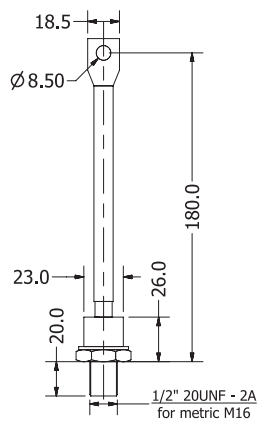
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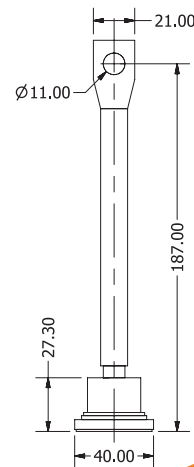
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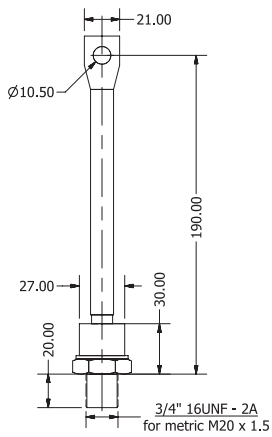
F4



F5



F6



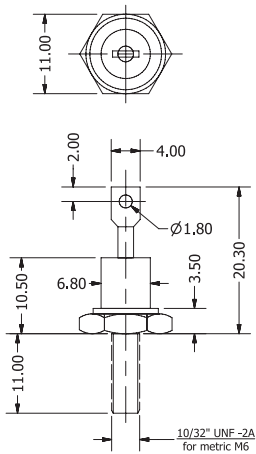
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ZENER DIODES

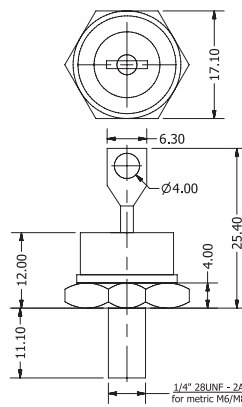
Stud Type

PART NO.	V _Z (V)	Wattage (W)	Max V _F (V)	Tolerance	F _M (Nm)	PACKAGE	OUTLINE
1N2970 thru 1N3015	6.8 - 200	10	1.5	± 5% to ± 20%	2	D0-4	F1
BZY93C7V5 thru BZY93C75R	7.5 - 75	20	1.5	± 5% to ± 20%	2	D0-4	F1
1N3305 thru 1N3350	6.8 - 200	50	1.5	± 5% to ± 20%	4	D0-5	F2
BZY91C7V5 thru BZY91C75R	7.5 - 75	75	1.5	± 5% to ± 20%	4	D0-5	F2
300Z34.5 thru 300Z150	34.5 - 150	300	1.5	± 5% to ± 20%	30	D0-9	F3

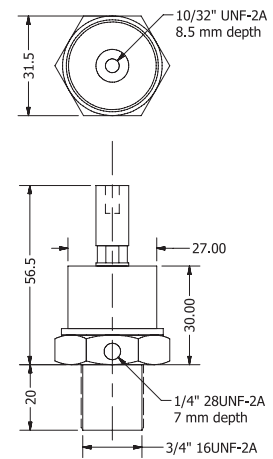
TYPE/ CONFIGURATION



F1



F2



F3

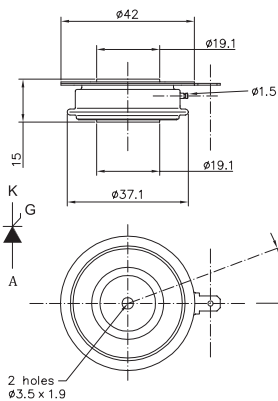


THYRISTORS (SCRs)

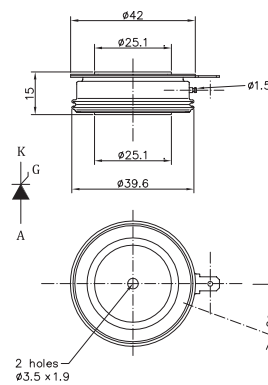
Capsule Type – DCR SERIES

PART NO.	V _{RRM} (V)	I _{T(RMS)} (A)	V _{GT} (V)	I _{GT} (mA)	I _{TSM} (A)	D _{v/dt} (V/μs)	F _M (Nm)	PACKAGE	OUTLINE
504DCR	400 - 1600	500	6000	3	150	100	5	A-PUK	F1
604DCR	400 - 1600	600	9100	3	200	150	10	E-PUK	F2
804DCR	400 - 1600	800	12000	3	200	200	15	B-PUK	F3
1004DCR	400 - 1600	1000	18000	3	200	200	20	K-PUK	F4

TYPE/ CONFIGURATION



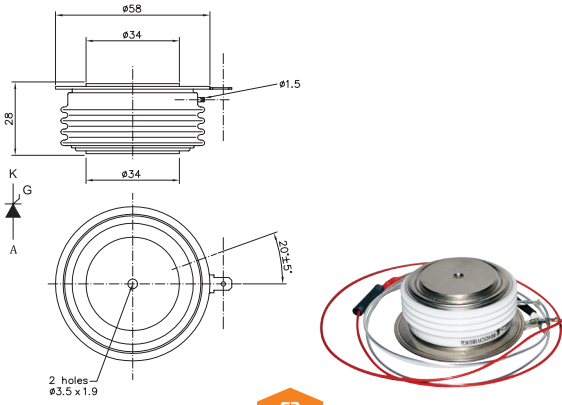
F1



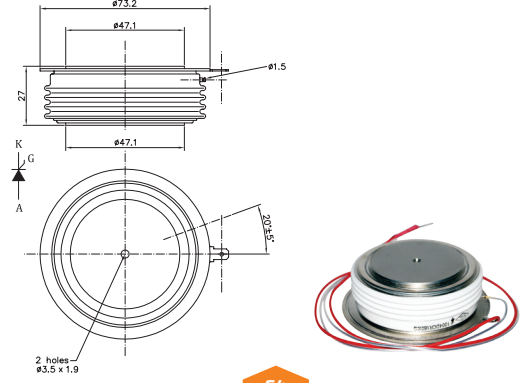
F2



THYRISTORS (SCRs)



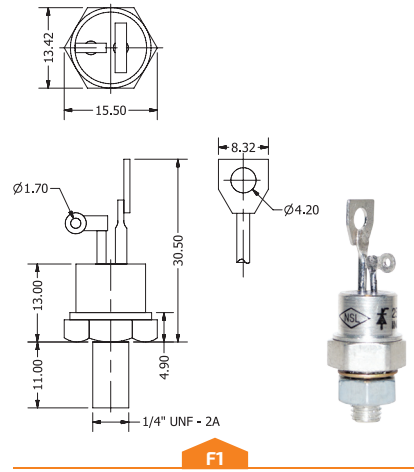
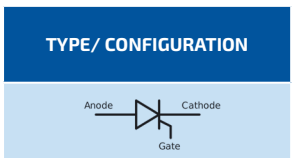
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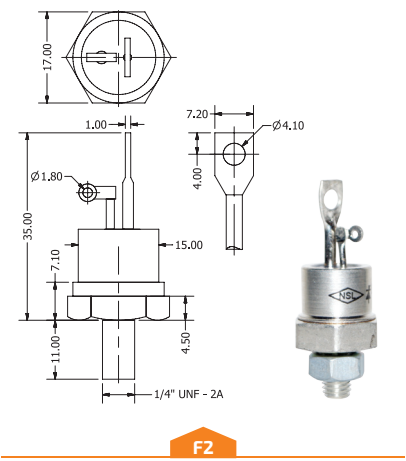
F4

Stud Type – NT SERIES

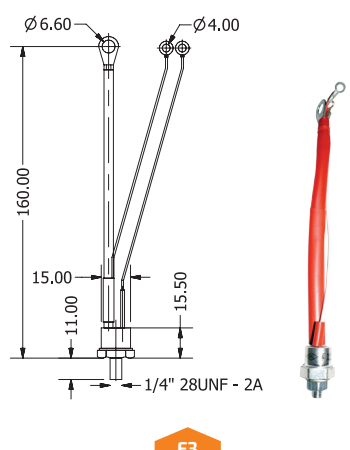
PART NO.	V_{RRM} (V)	$I_T(AV)$ (A)	Max V_{TM} (A)	I_{TSM} (A)	Dv/dt (V/ μ s)	F_M (Nm)	PACKAGE	OUTLINE
16NT	200-1600	16	1.8	340	300	3	TO-48	F1
25NT	200-1600	25	1.8	430	300	3	TO-48	F1
40NT	200-1600	40	1.8	700	300	4	TO-65	F2
56NT	200-1600	56	1.8	1000	300	4	TO-65	F2
70NT	200-1600	70	1.8	1200	500	10	TO-65, TO-94	F3, F4
80NT	200-1600	80	1.8	1500	500	10	TO-65, TO-94	F3, F4
100NT	200-1600	100	1.8	2000	500	10	TO-94	F4
125NT	200-1600	125	1.8	2400	500	10	TO-94	F4
150NT	200-1600	150	1.8	2700	500	30	TO-93	F5
175NT	200-1600	175	1.8	3000	500	30	TO-93	F5
200NT	200-1600	200	1.8	3300	500	30	TO-93	F5
230NT	200-1600	230	1.8	3600	500	30	TO-93	F5



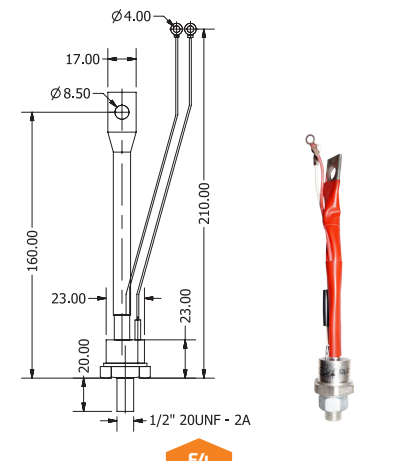
F1



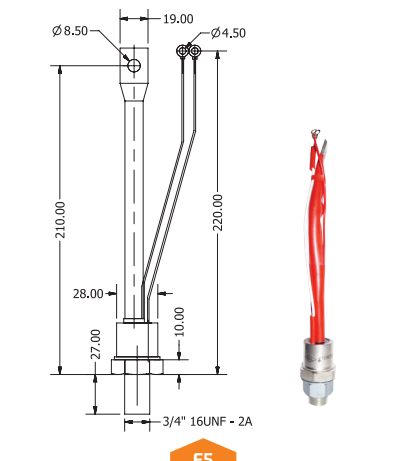
F2



F3



F4



F5



½" Press-Fit Type – NPS SERIES

PART NO.	V _{RRM} (V)	I _{T(RMS)} (A)	V _{GT} (V)	I _{GT} (mA)	I _{TSM} (A)	Dv/dt (V/μs)	PACKAGE	OUTLINE
NPS20	50 - 600	20	2	25	200	200	TO-203/F	F1
NPS25	50 - 600	25	2	25	250	200	TO-203/F	F1
NPS35	50 - 600	35	2	25	350	200	TO-203/F	F2
NPS40	50 - 600	40	2	25	400	200	TO-203/F	F2

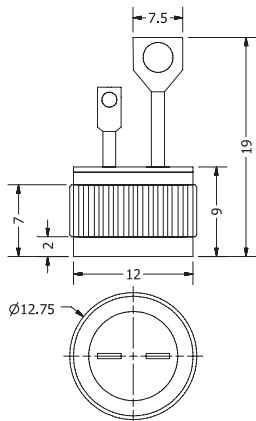
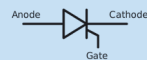
Press-Fit Stud Type – NPSS SERIES

PART NO.	V _{RRM} (V)	I _{T(RMS)} (A)	V _{GT} (V)	I _{GT} (mA)	I _{TSM} (A)	Dv/dt (V/μs)	PACKAGE	OUTLINE
NPSS20	50 - 600	20	2	25	200	200	TO-48/F	F3
NPSS25	50 - 600	25	2	25	250	200	TO-48/F	F3
NPSS35	50 - 600	35	2	25	350	200	TO-48/F	F4
NPSS40	50 - 600	40	2	25	400	200	TO-48/F	F4

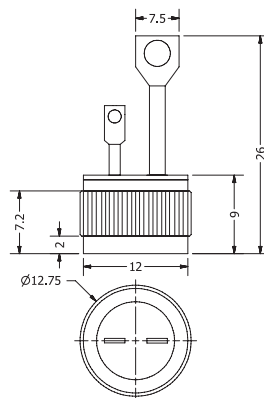
Press-Fit Isolated Stud Type – NPIS SERIES

PART NO.	V _{RRM} (V)	I _{T(RMS)} (A)	V _{GT} (V)	I _{GT} (mA)	I _{TSM} (A)	Dv/dt (V/μs)	PACKAGE	OUTLINE
NPIS20	50 - 600	20	2	25	200	200	SC-66	F5
NPIS25	50 - 600	25	2	25	250	200	SC-66	F5
NPIS35	50 - 600	35	2	25	350	200	SC-66	F6
NPIS40	50 - 600	40	2	25	400	200	SC-66	F6

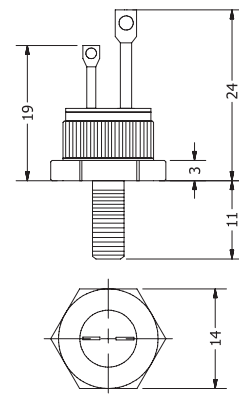
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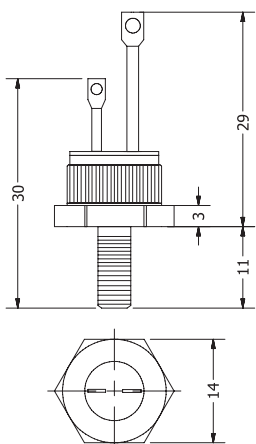
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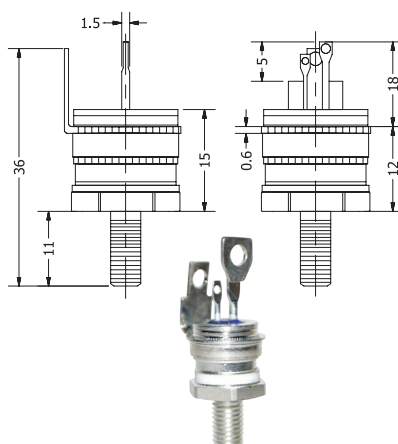
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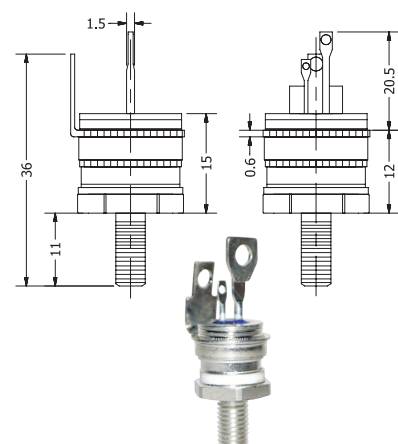
F3



F4



F5



F6





½" Press-Fit Type – NPT SERIES

PART NO.	V _{RRM} (V)	I _{T(RMS)} (A)	I _{TSM} (A)	V _{GT} (V)	I _{GT} (mA)				PACKAGE	OUTLINE
					Q1	Q2	Q3	Q4		
NPT15	200 - 600	15	150	2.2	100	150	100	150	TO-203/F	F1
NPT25	200 - 600	25	250	2.5	100	150	100	150	TO-203/F	F1
NPT30	200 - 600	30	300	2	100	150	100	150	TO-203/F	F2
NPT40	200 - 600	40	400	2	100	150	100	150	TO-203/F	F2

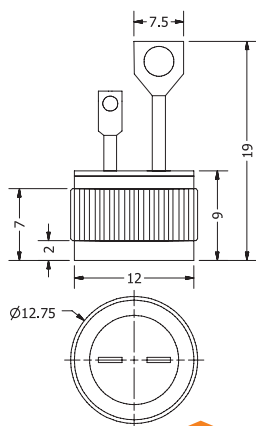
Press-Fit Stud Type – NPTS SERIES

PART NO.	V _{RRM} (V)	I _{T(RMS)} (A)	I _{TSM} (A)	V _{GT} (V)	I _{GT} (mA)				PACKAGE	OUTLINE
					Q1	Q2	Q3	Q4		
NPTS15	200 - 600	15	150	2.2	100	150	100	150	TO-48/F	F3
NPTS25	200 - 600	25	250	2.5	100	150	100	150	TO-48/F	F3
NPTS30	200 - 600	30	300	2	100	150	100	150	TO-48/F	F4
NPTS40	200 - 600	40	400	2	100	150	100	150	TO-48/F	F4

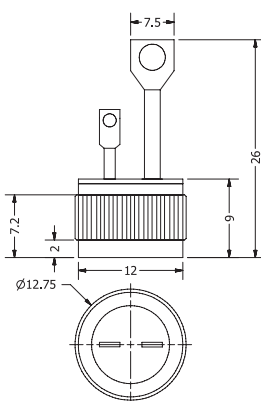
Press-Fit Isolated Stud Type – NPIT SERIES

PART NO.	V _{RRM} (V)	I _{T(RMS)} (A)	I _{TSM} (A)	V _{GT} (V)	I _{GT} (mA)				PACKAGE	OUTLINE
					Q1	Q2	Q3	Q4		
NPIT15	200 - 600	15	150	2.2	100	150	100	150	SC-66	F5
NPIT25	200 - 600	25	250	2.5	100	150	100	150	SC-66	F5
NPIT30	200 - 600	30	300	2	100	150	100	150	SC-66	F6
NPIT40	200 - 600	40	400	2	100	150	100	150	SC-66	F6

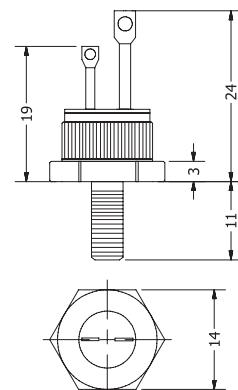
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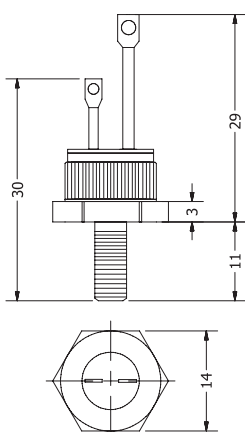
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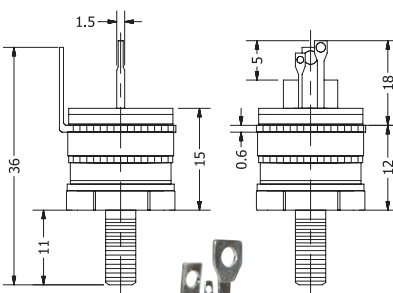
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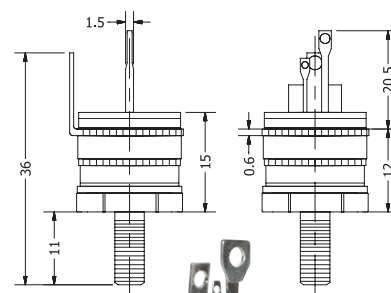
F3



F4



F5



F6





Standard Recovery Diodes

PART NO.	V _{RRM} (V)	I _{F(AV)} (A)	V _{FM} (V)	I _{FSM} (A)	R _{TH(J-C)} (°C/W)	PACKAGE	OUTLINE
1N4007	1000	1	1	30	85	DO-41	F1
1N5402	200	3	1	200	25	DO-201AD	F2
1N5408	1000	3	1	200	25	DO-201AD	F2

Fast Recovery Diodes

PART NO.	V _{RRM} (V)	I _{F(AV)} (A)	V _{FM} (V)	I _{FSM} (A)	T _{RR} (ns)	PACKAGE	OUTLINE
BA159	1000	1.0	1.2	30	500	DO-41	F1
BY397	200	3.0	1.3	200	250	DO-201AD	F2
BY399	800	3.0	1.3	200	250	DO-201AD	F2

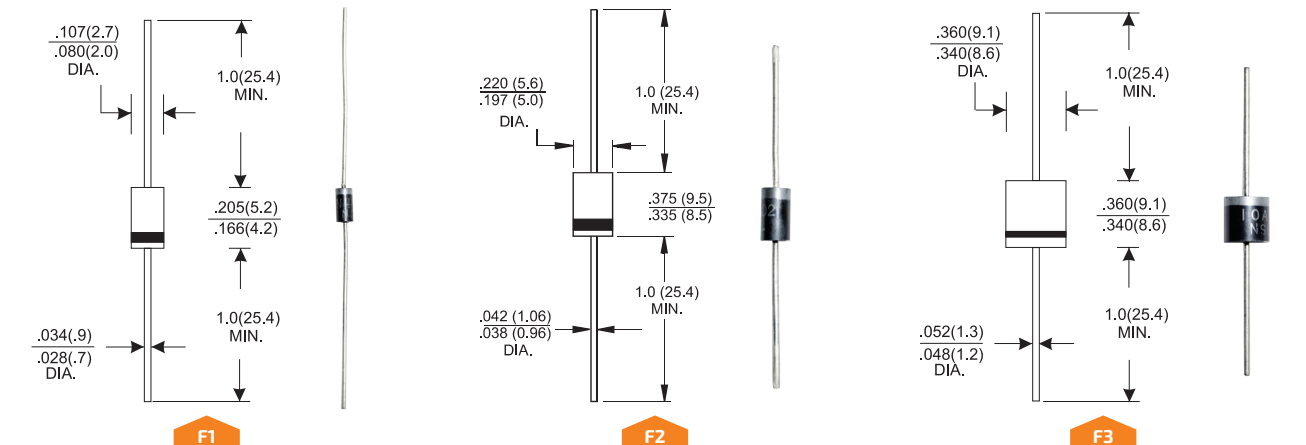
Bypass Diodes

PART NO.	V _{RRM} (V)	I _{F(AV)} (A)	V _{FM} (V)	I _{FSM} (A)	I _R (μA)	PACKAGE	OUTLINE
6A05 thru 6A10	50 - 1000	6.0	0.9	400	10	R-6	F3
10A05 thru 10A10	50 - 1000	10	1.0	600	10	R-6	F3

Schottky Diodes

PART NO.	V _{RRM} (V)	I _{F(AV)} (A)	V _{FM} (V)	I _{FSM} (A)	I _R (mA)	PACKAGE	OUTLINE
10SQ030 thru 10SQ100	30 - 100	10	0.55	275	0.5	R-6	F3
12SQ030 thru 12SQ100	30 - 100	3	0.55	200	250	R-6	F3
15SQ030 thru 15SQ100	30 - 100	3	0.55	200	250	R-6	F3

TYPE/ CONFIGURATION



PRESS-FIT RECTIFIER STACKS

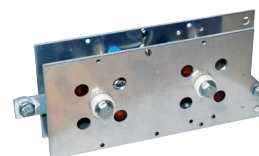
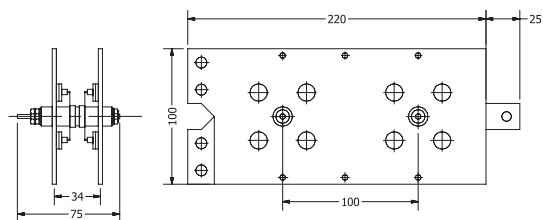
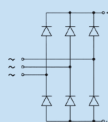
Single-Phase

PART NO.	V _{OUT} (V)	I _N (A)	V _{RRM} (V)	DUTY CYCLE	ASSEMBLY SIZE (mm)	OUTLINE
NRQ108	100	108	400	60%	100 x 245 x 75	F1
NRQ135	100	135	400	60%	100 x 245 x 75	F1
NRQ156	100	156	400	60%	100 x 245 x 75	F1
NRQ200	100	200	400	60%	100 x 245 x 75	F1
NRQ240	100	240	400	60%	100 x 245 x 75	F1

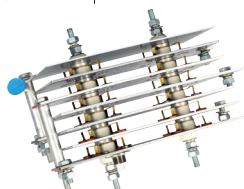
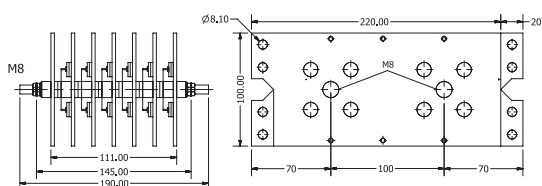
Three-Phase

PART NO.	V _{OUT} (V)	I _N (A)	V _{RRM} (V)	DUTY CYCLE	ASSEMBLY SIZE (mm)	OUTLINE
NRS108	100	108	400	60%	100 x 240 x 190	F2
NRS135	100	135	400	60%	100 x 240 x 190	F2
NRS156	100	156	400	60%	100 x 240 x 190	F2
NRS200	100	200	400	60%	100 x 240 x 190	F2
NRS240	100	240	400	60%	100 x 240 x 190	F2
NRS400	165	400	400	60%	100 x 240 x 190	F2
NRS600	165	600	400	60%	130 x 300 x 190	F3
NRS700	165	700	400	60%	130 x 300 x 190	F3

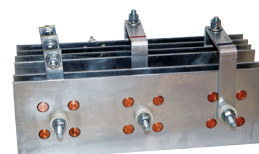
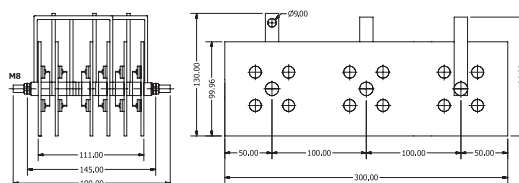
TYPE/ CONFIGURATION



F1



F2



F3



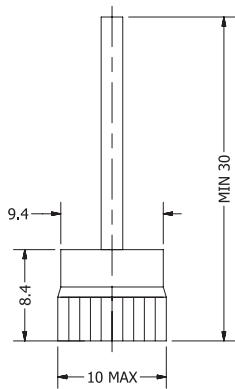
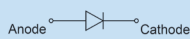
Standard Auto Rectifiers

PART NO.	V _{RRM} (V)	I _{F(AV)} (A)	V _F (V)	I _{FSM} (A)	I _R (μA)	OUTLINE
NP2502 thru NP2506(R)	200 – 600	25	1.0	300	5.0	F1
NP3502 thru NP3506(R)	200 – 600	35	1.0	400	5.0	F1
NP5002 thru NP5006(R)	200 – 600	50	1.1	600	5.0	F2

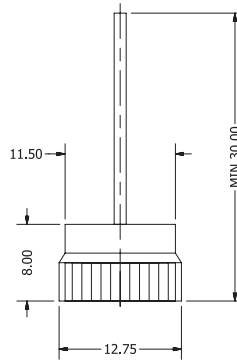
Standard Auto Rectifiers

PART NO.	V _{RRM} (V)	I _{F(AV)} (A)	V _F (V)	I _{FSM} (A)	I _R (μA)	OUTLINE
NP2520 thru NP2534(R)	20 – 34	25	1.1	350	1.0	F1
NP3520 thru NP3534(R)	20 – 34	35	1.1	450	1.0	F1
NP5020 thru NP5034(R)	20 – 34	50	1.2	600	1.0	F2

TYPE/ CONFIGURATION



F1



F2

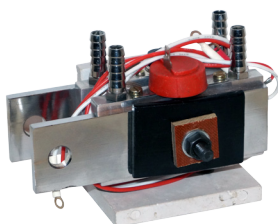


WATER COOLED ASSEMBLIES

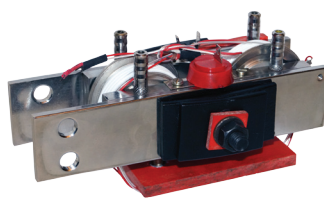


Press Pack Assemblies

PART NO.	I _{RMS} (A)	V _{RRM} (V)	I _{TSM} (A)	OUTLINE
NWC400	400	1600	2200	F1
NWC500	500	1600	3900	F1
NWC600	600	1600	5600	F1
NWC800	800	1600	7300	F2
NWC1000	1000	1600	9000	F2



F1



F2

ABOUT NAINA SEMICONDUCTOR LTD.

Naina Semiconductor Ltd. was incorporated in the year 1988 in the state of Uttar Pradesh in India. Starting with plastic devices such as standard recovery & fast recovery DO-41, DO-27 & R-6 for various applications, the company has grown past 24 years, the company has expanded rapidly in the field of power semiconductors and is now one of the leading manufacturers of these components in India.

Uttar Pradesh in India. diodes in packages of to new heights. Over the semiconductors and is now

Certification & Standards

- » The company has earned the ISO 9001:2008 Certification, which is the standard of quality management system. With this, we are able to keep up and maintain a strict control on the quality system for all the products. We are able to provide the customer what they need and guaranteeing the best quality which exceeds their expectations. Every step in the production process is thoroughly checked and tested to ensure only the best and stable quality products are produced.
- » We also comply with the RoHS and Lead-Free International standards, and guarantee the environmental safety of our components.
- » All of our devices follow the international JEDEC package standards as well as the military grade standards, MIL-STDs.

Applications & Technology

The products are of the highest standards with high demands in the field of industrial electronics. Welding machines, Battery Chargers, UPS, Power Supplies, Control Panels, Telecom, Railways, Defence, Automotive, Induction heating, Solar Junction boxes, Wind Energy etc. are just some of the applications of this product line.

The continuous improvement in technology enables us to bring forth more advanced and competitive products keeping in mind the demand of the customers as the key goal.

Company Goal

Our mission is to provide customers with world-class products, through constant innovation, design, development and production, while maintaining strict quality control. We firmly believe in keeping our customers' needs as a priority and also have a win-win business philosophy. We are always striving towards excellence and believe that under our customers care and support, we can build a fruitful relationship for the future.



NAINA SEMICONDUCTOR LTD.

ISO 9001:2008 CERTIFIED COMPANY

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