DISCRETE RECTIFIERS

General Purpose

Applications Include:
- Battery Chargers
- Induction Heating / Melting
- Motor Controls
- Power Supplies
- Transportation
- Welding

Packages:
- Discrete Discs
- Discrete Studs

Fast Recovery

Applications Include:
- Induction Heating
- Medical Equipment
- Motor Controls
- Transportation
- Welding

Packages:
- Discrete Discs
- Discrete Studs

TABLE OF CONTENTS

General Purpose:
VOLTAGE: 100V TO 6500V
CURRENT: 100A TO 10000A
Fast Recovery:
VOLTAGE: 200V TO 4500V
CURRENT: 125A TO 2000A

Numbering System

R5100615XXWA is a 150 Ampere, 600 Volt, General Purpose Diode (STUD)

R510 06 15 XX WA
(1) (2) (3) (4) (5)

R6031225HSYA is a 250 Ampere, 1200 Volt, Fast Recovery Diode (STUD)

R603 12 25 HS YA
(1) (2) (3) (4) (5)

R6201250XXOO is a 500 Ampere, 1200 Volt, General Purpose Diode (DISC)

R620 12 50 XX OO
(1) (2) (3) (4) (5)

R6221240HSOO is a 400 Ampere, 1200 Volt, Fast Recovery Diode (DISC)

R622 12 40 HS OO
(1) (2) (3) (4) (5)

(1) Type Number

(2) Voltage Rating (x 100)

(3) Current Rating:
R5, R6 (x 10)
R7, R8, R9, RA, RB (x 100)

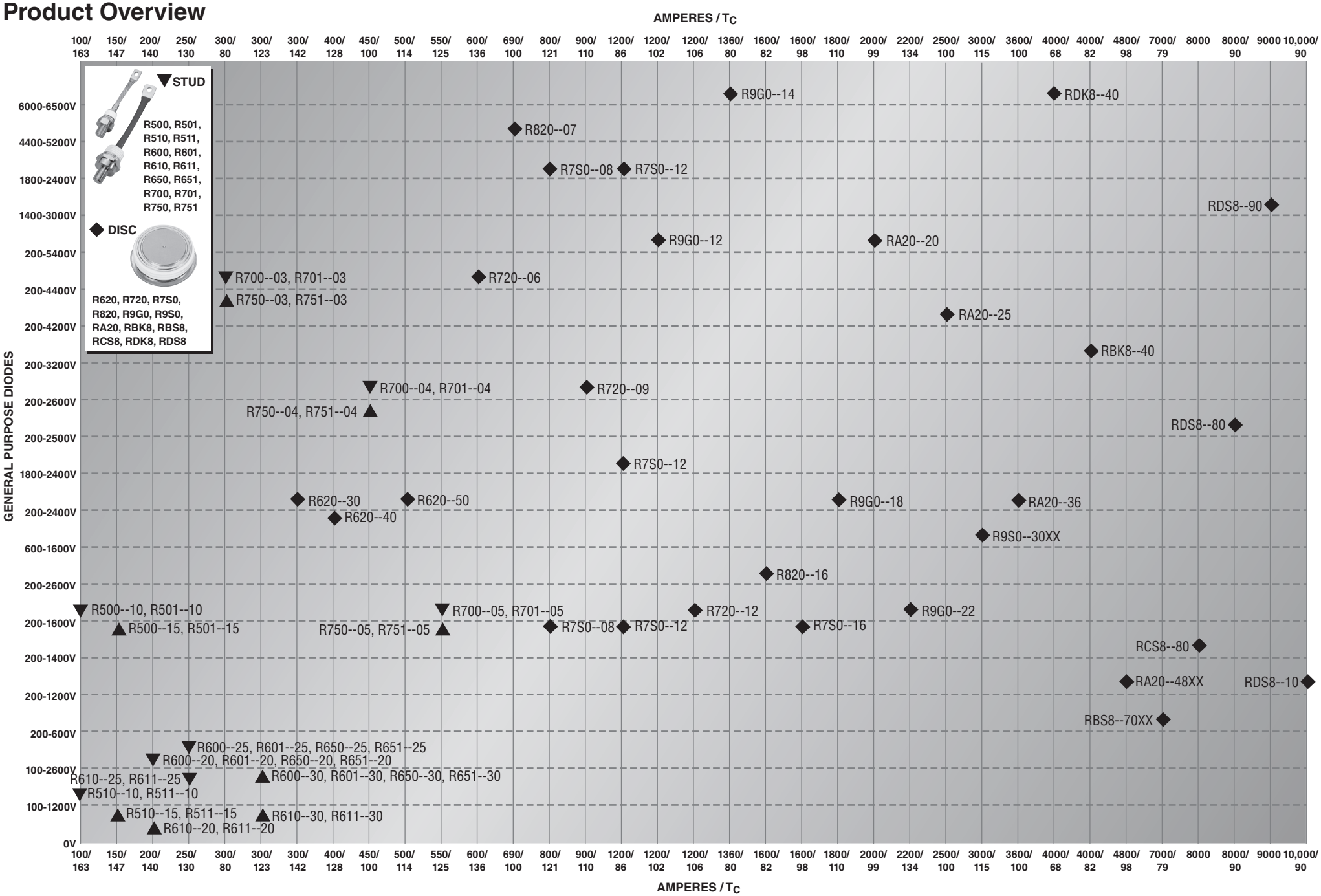
(4) Reverse Recovery Time

Code	Time (μsec)	Code	Time (μsec)
XX	Standard Recovery	LS	0.7
AS	5.0	MS	0.6
BS	4.0	NS	0.2
CS	3.0	OS	4.5
DS	2.5	PS	0.5
ES	2.0	QS	0.4
FS	1.5	RS	0.3
GS	1.25	TS	3.5
HS	1.0	US	2.75
IS	5.5	VS	2.25
JS	0.9	ZS	10.0
KS	0.8		

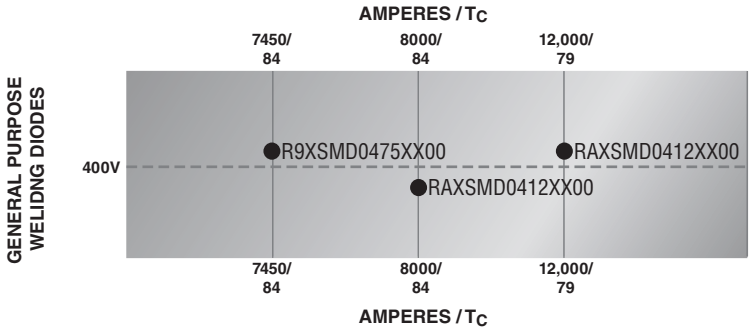
(5) Lead Code

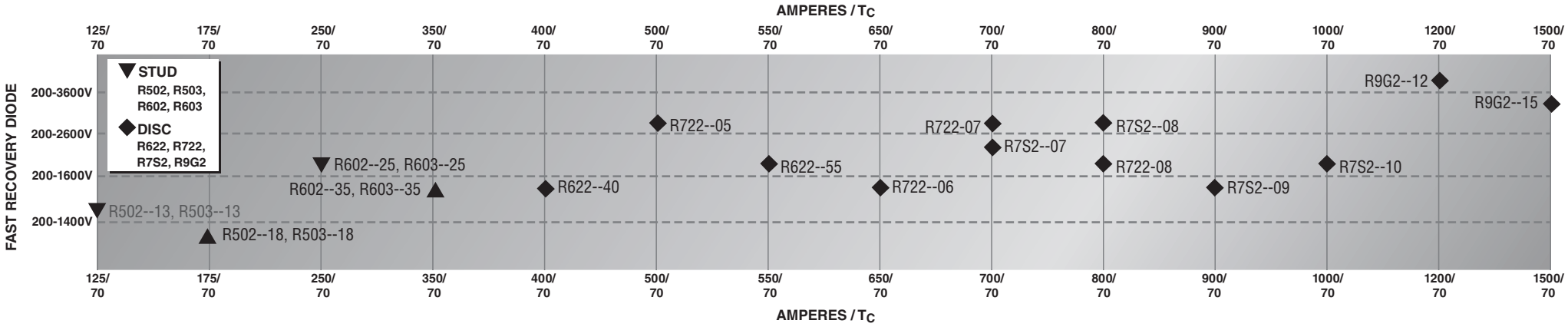
Device	Code	Description
R51* Stud	WA	Power Lead: 4.14" from seating plane to center of 0.281" diameter hole in terminal lug
R50* Stud	WA	Power Lead: 4.48" from seating plane to center of 0.281" diameter hole in terminal lug
R61* Stud	YZ	Power Lead: 5.47" from seating plane to center of 0.343" diameter hole in terminal lug
R60* Stud	YA	Power Lead: 5.44" from seating plane to center of 0.343" diameter hole in terminal lug
R70* Stud	UA	Power Lead: 9.66" from seating plane to center of 0.343" diameter hole in terminal lug (Note: High voltage R7 studs with convoluted seal will be 9.96" from seating plane to center of 0.343" diameter hole in terminal lug)

Product Overview



Product Overview





General Purpose Disc/Hockey Puk Diodes

Type	V_{RRM} Volts ($V_{RMS} = V_{RRM} + 100V$)	$I_{F(av)}/T_C$ Amperes/°C (180° sin)	$I_{F(RMS)}$ Amperes (180° sin)	EUROPEAN I_{FSM} Amperes (10ms, $T_{j(max)}$, No V_{RRM} Reapplied)	EUROPEAN I^2t A^2sec (10ms, $T_{j(max)}$, No V_{RRM} Reapplied)	NORTH AMERICAN I_{FSM} Amperes (8.3ms, $T_{j(max)}$, 100% V_{RRM} Reapplied)	NORTH AMERICAN I^2t A^2sec (8.3ms, $T_{j(max)}$, 100% V_{RRM} Reapplied)	V_{FM}/I_{FM} Volts/Amperes ($T_{j(max)}$)	V_{TO} Volts ($T_{j(max)}$)	R_T mΩ ($T_{j(max)}$)	$R_{th(j-c)}$ °C/W	$R_{th(c-s)}$ °C/W	$T_{j(max)}$ °C	Outline Drawings Number	Page
Up to 1200V															
RA20--48XX	200 – 1200	4800 / 98	7,535	73,500	27.0×10^6	49,000	10.0×10^6	0.71 / 1000	0.65128	0.06315	0.013	0.001	190	7	H-10
RBS8--70XX	200 – 600	7000 / 79	11,000	90,000	40.5×10^6	60,000	1.5×10^6	0.70 / 1000	0.64564	0.04421	0.0095	0.002	175	8	H-10
RDS8--10XX	200 – 1200	10,000 / 90	15,708	111,000	5.13×10^7	120,000	6.00×10^7	0.75 / 4000	0.642	2.28×10^{-4}	0.0075	0.0015	175	11	H-11
Up to 2000V															
R7S0--08XX	200 – 1600	800 / 121	1,250	12,750	812,813	8,500	301,000	1.95 / 2000	0.91169	0.51788	0.035	0.02	175	2	H-8
R720--12XX	200 – 1600	1200 / 106	1,885	18,750	1.7×10^6	12,500	650,700	0.91 / 1000	0.68	0.24	0.055	0.02	175 – 200	4	H-9
R7S0--12XX	200 – 1600	1200 / 86	1,875	13,500	911,250	9,000	337,500	1.25 / 2000	0.831	0.441	0.035	0.02	175	2	H-8
R7S0--16XX	200 – 1600	1600 / 98	2,500	21,000	2.2×10^6	14,000	816,700	1.2 / 2000	0.62955	0.2929	0.035	0.02	200	2	H-8
R9G0--22XX	200 – 1600	2200 / 134	3,455	45,000	10.1×10^6	30,000	3.7×10^6	0.97 / 2000	0.79109	0.08773	0.020	0.0075	150	5	H-9
RCS8--80XX	200 – 1400	8000	12,566	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	175	10	H-11
Up to 2600V															
R620--30XXOO	200 – 2400	300 / 142	470	8,250	340,313	5,500	125,000	1.33 / 500	0.92	0.88	0.095	0.02	150 – 190	1	H-8
R620--40XXOO	200 – 2400	400 / 128	625	9,000	405,000	6,000	150,000	1.25 / 500	0.89	0.74	0.095	0.02	150 – 190	1	H-8
R620--50XXOO	200 – 2400	500 / 114	785	9,750	475,313	6,500	175,000	1.17 / 500	0.85	0.63	0.095	0.02	150 – 190	1	H-8
R7S0--08XX	1800 – 2400	800 / 121	1,250	12,750	812,813	8,500	301,000	1.95 / 2000	0.91169	0.51788	0.035	0.02	175	3	H-8
R720--09XXOO	200 – 2600	900 / 110	1,415	12,750	812,813	8,500	301,000	1.26 / 1000	0.84	0.42	0.055	0.02	150 – 200	4	H-9
R7S0--12XX	1800 – 2400	1200 / 86	1,875	13,500	911,250	9,000	337,500	1.25 / 2000	0.38717	0.4301	0.035	0.02	175	3	H-8
R820--16XXOO	200 – 2600	1600 / 82	2,513	12,950	6.99×10^5	14,000	8.17×10^5	1.06 / 1500	0.68	0.25	0.035	0.015	175	4	H-9
R9G0--18XX	200 – 2400	1800 / 110	2,825	32,250	5.2×10^6	21,500	1.9×10^6	1.25 / 2000	0.81366	0.2242	0.02	0.008	175	5	H-9
R9S0--30XX	600 – 1600	3000 / 115	4,710	45,000	10.1×10^6	30,000	3.7×10^6	1.10 / 1500	0.912	0.089	0.0145	0.006	175	6	H-9
RA20--36XX	200 – 2400	3600 / 100	5,650	60,000	18.0×10^6	40,000	6.67×10^6	0.79 / 1000	0.66324	0.1134	0.013	0.007	175	7	H-10
RDS8--80XX	200 – 2500	8000 / 90	12,566	150,000	3.57×10^7	100,000	4.17×10^7	0.82 / 4000	0.654	3.82×10^{-2}	0.007	0.001	175	11	H-11
Up to 6500V															
R720--06XXOO	200 – 4400	600 / 136	945	10,500	551,250	7,000	204,000	1.54 / 1000	0.92	0.61	0.055	0.02	150 – 200	4	H-9
R820--07XX00	4400 – 5200	690 / 100	1,084	6,938	2.41×10^5	7,500	2.34×10^5	1.94 / 1500	1.0	0.62	0.035	0.015	150	4	H-9
R9G0--12XX	200 – 5400	1200 / 102	1,880	24,000	2.8×10^6	16,000	1.1×10^6	1.4 / 1000	1.07197	0.32357	0.020	0.008	150	5	H-9
R9G0--14XX	6000 – 6500	1360 / 80	2,136	15,250	1.6×10^6	12.500	6.51×10^6	1.61 / 1500	0.793	0.521	0.20	0.0006	150	5	H-9
RA20--20XX	200 – 5400	2000 / 99	3,140	36,000	6.4×10^6	24,000	2.4×10^6	1.39 / 2000	0.96347	0.20721	0.013	0.007	150	7	H-10
RA20--25XX	200 – 4200	2500 / 100	3,920	42,000	8.8×10^6	28,000	3.2×10^6	0.87 / 1000	0.74116	0.1320	0.013	0.001	150	7	H-10
RBK8--40XX	200 – 3200	4000 / 82	6,280	75,000	28.1×10^6	50,000	10.4×10^6	0.78 / 1000	0.69989	0.09373	0.0115	0.002	160	9	H-10
RDK8--40XX	6000 – 6500	4000 / 68	6,283	55,000	1.28×10^7	60,000	1.50×10^7	1.65 / 4000	1.13	0.117×10^{-4}	0.0075	0.001	150	12	H-11
RDS8--90XX	1400 – 3000	9000	14,137	TBD	TBD	TBD	TBD	TBD	TBD	TBD	0.0075	0.0015	175	11	H-11

Optional Accessories: See Page F-9 for Clamps.

General Purpose Stud Diodes

Type	V_{RRM} Volts ($V_{RMS} = V_{RRM} + 100V$)	$I_{F(av)}/T_C$ Amperes/°C (180° sin)	$I_{F(RMS)}$ Amperes (180° sin)	EUROPEAN I_{FSM} Amperes (10ms, $T_{j(max)}$, No V_{RRM} Reapplied)	EUROPEAN I^2t A^2sec (10ms, $T_{j(max)}$, No V_{RRM} Reapplied)	NORTH AMERICAN I_{FSM} Amperes (8.3ms, $T_{j(max)}$, 100% V_{RRM} Reapplied)	NORTH AMERICAN I^2t A^2sec (8.3ms, $T_{j(max)}$, 100% V_{RRM} Reapplied)	V_{FM}/I_{FM} Volts/Amperes ($T_{j(max)}$)	V_{TO} Volts ($T_{j(max)}$)	R_T mΩ ($T_{j(max)}$)	$R_{th(j-c)}$ °C/W	$R_{th(c-s)}$ °C/W	$T_{j(max)}$ °C	Outline Drawings Number	Page
Up to 1200V															
R510--10XXWA, R511--10XXWA	100 – 1200	100 / 163	160	3,450	59,513	2,300	22,000	1.0 / 80	0.80	1.99	0.28	0.20	200	14	H-12
R510--15XXWA, R511--15XXWA	100 – 1200	150 / 147	236	4,500	101,250	3,000	37,500	1.0 / 100	0.85	1.08	0.28	0.20	200	14	H-12
R610--20XXYZ, R611--20XXYZ	100 – 1200	200 / 140	315	8,250	340,313	5,500	125,000	1.32 / 500	0.84	0.94	0.18	0.10	190	16	H-13
R610--25XXYZ, R611--25XXYZ	100 – 1200	250 / 130	400	9,000	405,000	6,000	150,000	1.24 / 500	0.88	0.72	0.18	0.10	190	16	H-13
R610--30XXYZ, R611--30XXYZ	100 – 1200	300 / 123	470	9,750	475,313	6,500	175,000	1.17 / 500	0.92	0.53	0.18	0.10	190	16	H-13
Up to 1600V															
R500--10XXWA, R501--10XXWA	200 – 1600	100 / 163	160	3,450	59,513	2,300	22,000	1.0 / 80	0.80	1.99	0.28	0.20	200	13	H-12
R500--15XXWA, R501--15XXWA	200 – 1600	150 / 147	236	4,500	101,250	3,000	37,500	1.0 / 100	0.85	1.08	0.28	0.20	200	13	H-12
R700--05XXUA, R701--05XXUA	200 – 1600	550 / 125	865	15,000	1.1×10^6	10,000	416,500	0.89 / 1000	0.65	0.25	0.12	0.04	200	18	H-13
R750--05XXUA, R751--05XXUA	200 – 1600	550 / 125	865	15,000	1.1×10^6	10,000	416,500	0.89 / 1000	0.65	0.25	0.12	0.04	200	19	H-14
Up to 2600V															
R600--20XXYA, R601--20XXYA	100 – 2600	200 / 140	315	8,250	340,313	5,500	125,000	1.32 / 500	0.84	0.94	0.18	0.10	150 – 190	15	H-12
R650--20XXYA, R651--20XXYA	100 – 2600	200 / 140	315	8,250	340,313	5,500	125,000	1.32 / 500	0.84	0.94	0.18	0.10	150 – 190	17	H-13
R600--25XXYA, R601--25XXYA	100 – 2600	250 / 130	400	9,000	405,000	6,000	150,000	1.24 / 500	0.88	0.72	0.18	0.10	150 – 190	15	H-12
R650--25XXYA, R651--25XXYA	100 – 2600	250 / 130	400	9,000	405,000	6,000	150,000	1.24 / 500	0.88	0.72	0.18	0.10	150 – 190	17	H-13
R600--30XXYA, R601--30XXYA	100 – 2600	300 / 123	470	9,750	475,313	6,500	175,000	1.17 / 500	0.92	0.53	0.18	0.10	150 – 190	15	H-12
R650--30XXYA, R651--30XXYA	100 – 2600	300 / 123	470	9,750	475,313	6,500	175,000	1.17 / 500	0.92	0.53	0.18	0.10	150 – 190	17	H-13
R700--04XXUA R701--04XXUA	200 – 2600	450 / 100	700	12,750	812,813	8,500	266,000	1.25 / 1000	0.83	0.40	0.12	0.04	200	18	H-13
R750--04XXUA R751--04XXUA	200 – 2600	450 / 100	700	12,750	812,813	8,500	266,000	1.25 / 1000	0.83	0.40	0.12	0.04	200	19	H-14
Up to 4500V															
R700--03XXUA, R701--03XXUA	200 – 4400	300 / 80	470	10,500	551,250	7,000	204,000	1.48 / 1000	0.92	0.55	0.12	0.04	200	18	H-13
R750--03XXUA, R751--03XXUA	200 – 4400	300 / 80	470	10,500	551,250	7,000	204,000	1.48 / 1000	0.92	0.55	0.12	0.04	200	19	H-14

Forward Polarity

R500, R510, R600, R610, R650, R700, R750

Reverse Polarity

R501, R511, R601, R611, R651, R701, R751

General Purpose Welding Diodes

Type	V_{RRM} Volts ($V_{RMS} = V_{RRM} + 100V$)	$I_{F(av)}/T_C$ Amperes/°C (180° sin)	$I_{F(RMS)}$ Amperes (180° sin)	EUROPEAN I_{FSM} Amperes (10ms, $T_{j(max)}$, No V_{RRM} Reapplied)	EUROPEAN I^2t A^2sec (10ms, $T_{j(max)}$, No V_{RRM} Reapplied)	NORTH AMERICAN I_{FSM} Amperes (8.3ms, $T_{j(max)}$, 100% V_{RRM} Reapplied)	NORTH AMERICAN I^2t A^2sec (8.3ms, $T_{j(max)}$, 100% V_{RRM} Reapplied)	V_{FM}/I_{FM} Volts/Amperes ($T_{j(max)}$@25°C)	V_{TO} Volts ($T_{j(max)}$)	R_T mΩ ($T_{j(max)}$)	$R_{th(j-c)}$ °C/W	$R_{th(c-s)}$ °C/W	$T_{j(max)}$ °C	Outline Drawings Number	Page
R9XSMD0475XX00	400	7450 / 84	11,702	42,000	8.82×10^6	43,700	7.96×10^6	1.05 / 4000	0.720	0.0308	0.009	0.005	175	20	H-14
RAXSMD0480XX00	400	8000 / 84	12,566	50,875	1.29×10^7	55,000	1.26×10^7	1.05 / 4000	0.642	0.0228	0.005	0.003	175	21	H-14
RAXSMD0412XX00	400	12,000 / 79	18,850	57,300	1.64×10^7	60,000	1.50×10^7	0.95 / 4000	0.696	0.0303	0.005	0.003	175	21	H-14

Fast Recovery Disc/Hockey Puk Diodes

Type	V_{RRM} Volts ($V_{RMS} = V_{RRM} + 100V$)	$I_{F(av)}/T_C$ Amperes/°C (180° sin)	$I_{F(RMS)}$ Amperes (180° sin)	EUROPEAN I_{FSM} Amperes (10ms, $T_{j(max)}$, No V_{RRM} Reapplied)	EUROPEAN I^2t A^2sec (10ms, $T_{j(max)}$, No V_{RRM} Reapplied)	NORTH AMERICAN I_{FSM} Amperes (8.3ms, $T_{j(max)}$, No V_{RRM} Reapplied)	NORTH AMERICAN I^2t A^2sec (8.3ms, $T_{j(max)}$, No V_{RRM} Reapplied)	V_{FM}/I_{FM} Volts/Amperes ($T_{j(max)}$)	V_{TO} Volts ($T_{j(max)}$)	R_T mΩ ($T_{j(max)}$)	$R_{th(j-c)}$ °C/W	$R_{th(c-s)}$ °C/W	$T_{j(max)}$ °C	Outline Drawings Number	Outline Drawings Page
Up to 1600V															
R622--40*SOO	200 – 1600	400 / 70	625	6,750	227,813	4,500	85,000	1.40 / 200	1.23	0.84	0.095	0.025	150	1	H-8
R622--55*SOO	200 – 1600	550 / 70	860	9,000	405,000	6,000	150,000	1.29 / 700	0.97	0.44	0.095	0.025	150	1	H-8
R722--06*SOO	200 – 1600	650 / 70	1000	11,250	632,813	7,500	234,000	1.51 / 400	1.12	0.67	0.055	0.020	150	4	H-9
R722--08*SOO	200 – 1600	800 / 70	1,250	16,500	1.3×10^6	11,000	504,000	1.22 / 400	1.08	0.36	0.055	0.020	150	4	H-9
R7S2--09*SOO	200 – 1600	900 / 70	1,440	11,250	632,813	7,500	234,000	1.55 / 500	1.32	0.44	0.035	0.025	150	3	H-8
R7S2--10*SOO	200 – 1600	1000 / 70	1,550	16,500	1,361,250	11,000	504,000	1.24 / 500	1.05	0.37	0.035	0.025	150	3	H-8
Up to 2600V															
R722--05*SOO	200 – 2600	500 / 70	785	9,750	475,313	6,500	176,000	1.52 / 500	0.99	0.86	0.055	0.020	150	4	H-9
R722--07*SOO	200 – 2600	700 / 70	1100	14,250	1.01×10^6	9,500	376,000	1.0 / 300	0.87	0.57	0.055	0.020	150	4	H-9
R7S2--07*SOO	200 – 2600	700 / 70	1100	9,750	475,313	6,500	176,000	1.42 / 400	1.10	0.72	0.035	0.025	150	3	H-8
R7S2--08*SOO	200 – 2600	800 / 70	1,250	14,250	1.01×10^6	9,500	376,000	1.17 / 500	0.86	0.55	0.035	0.025	150	3	H-8
Up to 3600V															
R9G2--12*SOO	200 – 3600	1200 / 70	1,900	21,000	2.2×10^6	14,000	820,000	1.95 / 1000	1.18	0.62	0.018	0.008	150	5	H-9
R9G2--15*SOO	200 – 3600	1500 / 70	2,350	27,000	3.6×10^6	18,000	1.35×10^6	1.5 / 1000	1.04	0.39	0.018	0.008	150	5	H-9

Fast Recovery Stud Diodes

Type	V_{RRM} Volts ($V_{RMS} = V_{RRM} + 100V$)	$I_{F(av)}/T_C$ Amperes/°C (180° sin)	$I_{F(RMS)}$ Amperes (180° sin)	EUROPEAN I_{FSM} Amperes (10ms, $T_{j(max)}$, No V_{RRM} Reapplied)	EUROPEAN I^2t A^2sec (10ms, $T_{j(max)}$, No V_{RRM} Reapplied)	NORTH AMERICAN I_{FSM} Amperes (8.3ms, $T_{j(max)}$, No V_{RRM} Reapplied)	NORTH AMERICAN I^2t A^2sec (8.3ms, $T_{j(max)}$, No V_{RRM} Reapplied)	V_{FM}/I_{FM} Volts/Amperes ($T_{j(max)}$)	V_{TO} Volts ($T_{j(max)}$)	R_T mΩ ($T_{j(max)}$)	$R_{th(j-c)}$ °C/W	$R_{th(c-s)}$ °C/W	$T_{j(max)}$ °C	Outline Drawings Number	Outline Drawings Page
Up to 1600V															
R502--13*SWA, R503--13*SWA	200 – 1400	125 / 70	195	3,750	70,313	2,500	26,000	1.84 / 200	1.17	3.09	0.28	0.12	150	13	H-12
R502--18*SWA, R503--18*SWA	200 – 1400	175 / 70	275	5,250	137,813	3,500	51,000	1.48 / 300	0.85	1.57	0.28	0.12	150	13	H-12
R602--25*SYA, R603--25*SYA	200 – 1600	250 / 70	400	6,750	227,813	4,500	85,000	1.39 / 200	1.20	0.86	0.17	0.10	150	15	H-12
R602--35*SYA, R603--35*SYA	200 – 1600	350 / 70	550	9,000	405,000	6,000	150,000	1.18 / 400	0.95	0.51	0.17	0.10	150	15	H-12

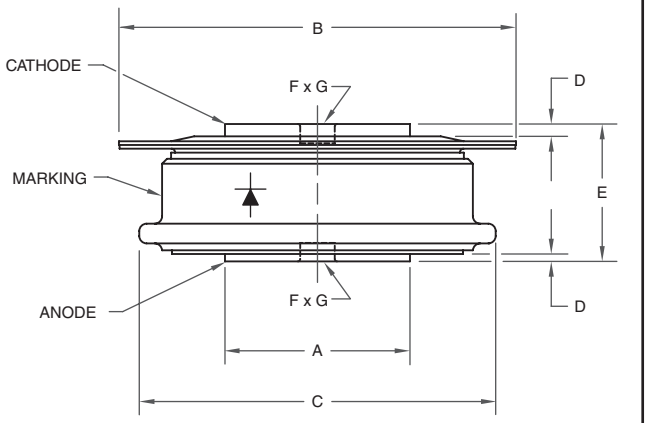
Forward Polarity

R502, R602

Reverse Polarity

R503, R603

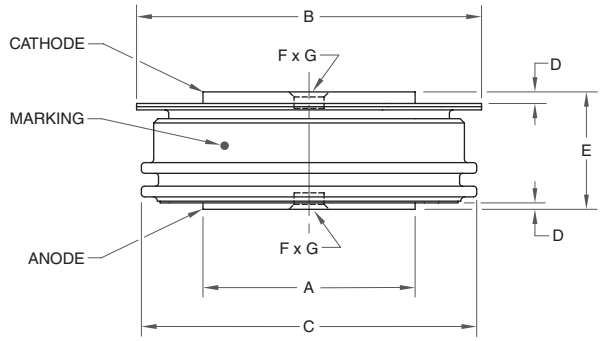
1 R620, R622



Dim.	Inches	Millimeters
A	0.752 Dia.	19.1 Dia.
B	1.658 Dia.	42.1 Dia.
C	1.461 Dia.	37.1 Dia.
D	0.0197 Min.	0.5 Min.

Dim.	Inches	Millimeters
E	0.567 Max.	14.4 Max.
F	0.142 Dia.	3.6 Dia.
G	0.0787 Deep	2.0 Deep

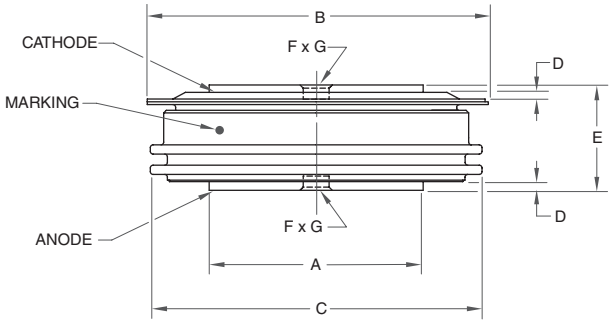
2 R7S0 (≤1600V)



Dim.	Inches	Millimeters
A	0.995 Dia.	25.27 Dia.
B	1.650 Dia.	41.9 Dia.
C	1.585 Dia.	40.26 Dia.
D	0.040 Min.	1.01 Min.

Dim.	Inches	Millimeters
E	0.605 Max.	15.37 Max.
F	0.145 Dia.	3.68 Dia.
G	0.0787 Deep	2.0 Deep

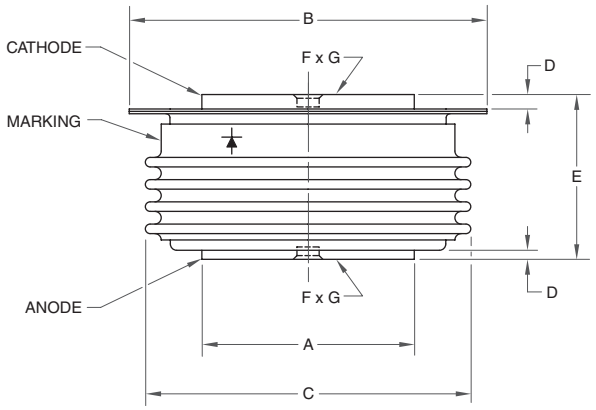
3 R7S0 (≥1800V), R7S2



Dim.	Inches	Millimeters
A	1.17 Dia.	29.7 Dia.
B	1.90 Dia.	48.3 Dia.
C	1.85 Dia.	47.0 Dia.
D	0.028 Min.	0.7 Min.

Dim.	Inches	Millimeters
E	0.606 Max.	15.4 Max.
F	0.142 Dia.	3.6 Dia.
G	0.0787 Deep	2.0 Deep

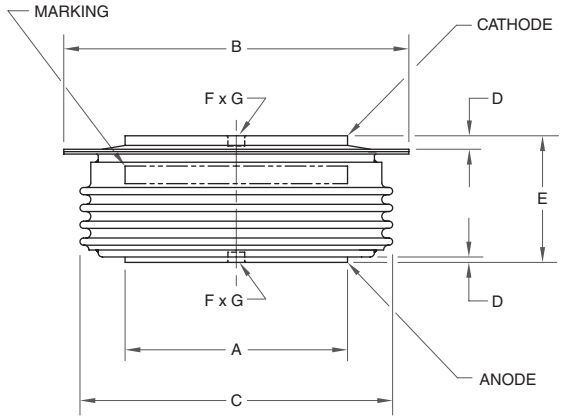
4 R720, R722, R820



Dim.	Inches	Millimeters
A	1.343 Dia.	34.1 Dia.
B	2.299 Dia.	58.4 Dia.
C	2.091 Dia.	53.1 Dia.
D	0.028 Min.	0.7 Min.

Dim.	Inches	Millimeters
E	1.059 Max.	26.9 Max.
F	0.142 Dia.	3.6 Dia.
G	0.0787 Deep	2.0 Deep

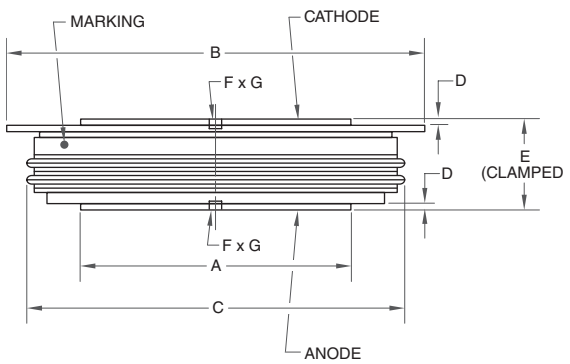
5 R9G0, R9G2



Dim.	Inches	Millimeters
A	1.858 Dia.	47.2 Dia.
B	2.8898 Dia.	73.4 Dia.
C	2.6496 Dia.	67.3 Dia.
D	0.028 Min.	0.7 Min.

Dim.	Inches	Millimeters
E	1.0787 Max.	27.4 Max.
F	0.142 Dia.	3.6 Dia.
G	0.0787 Deep	2.0 Deep

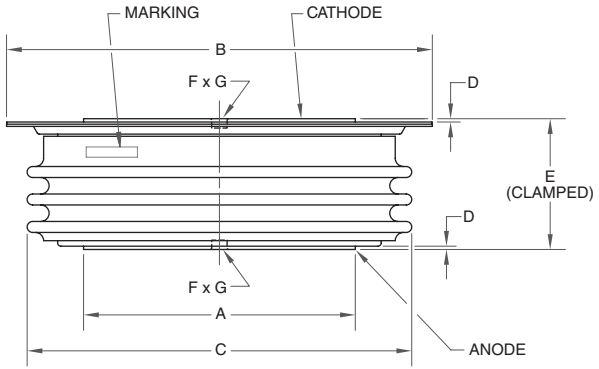
6 R9S0



Dim.	Inches	Millimeters
A	1.85 Dia.	47.0 Dia.
B	2.913 Dia.	74.0 Dia.
C	2.638 Dia.	67 Dia.
D	0.028 Min.	0.7 Min.

Dim.	Inches	Millimeters
E	0.650 Max.	16.5 Max.
F	0.142 Dia.	3.6 Dia.
G	0.0787 Deep	2.0 Deep

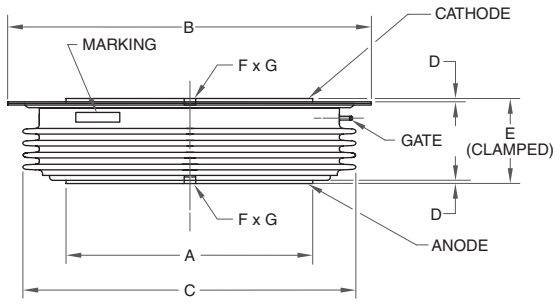
7 RA20



Dim.	Inches	Millimeters
A	2.469 Dia.	62.7 Dia.
B	3.909 Dia.	99.3 Dia.
C	3.543 Dia.	90.0 Dia.
D	0.028 Min.	0.7 Min.

Dim.	Inches	Millimeters
E	1.339 Max.	34.0 Max.
F	0.142 Dia.	3.6 Dia.
G	0.0787 Deep	2.0 Deep

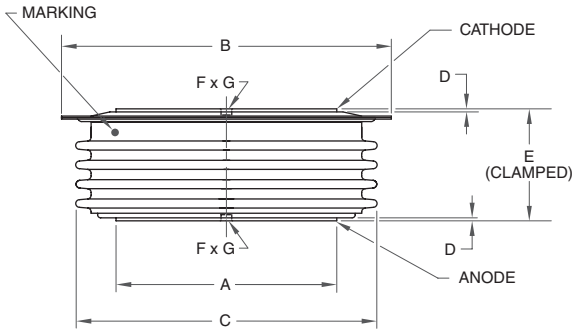
8 RBS8



Dim.	Inches	Millimeters
A	2.88 Dia.	73.2 Dia.
B	4.36 Dia.	110.7 Dia.
C	3.95 Dia.	100.3 Dia.
D	0.03 Min.	0.76 Min.

Dim.	Inches	Millimeters
E	1.05 Max.	26.67 Max.
F	0.142 Dia.	3.6 Dia.
G	0.0787 Deep	2.0 Deep

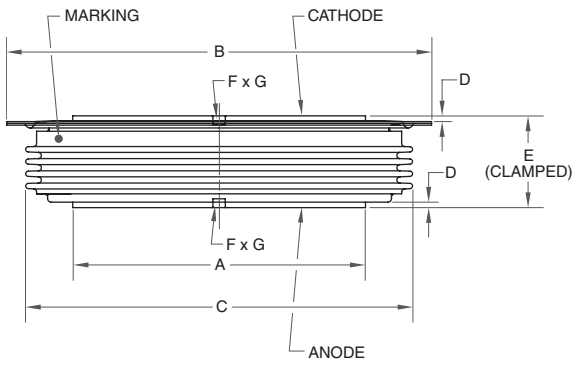
9 RBK8



Dim.	Inches	Millimeters
A	2.882 Dia.	73.2 Dia.
B	4.36 Dia.	110.7 Dia.
C	3.961 Dia.	100.6 Dia.
D	0.028 Min.	0.7 Min.

Dim.	Inches	Millimeters
E	1.5 Max.	38.1 Max.
F	0.142 Dia.	3.6 Dia.
G	0.0787 Deep	2.0 Deep

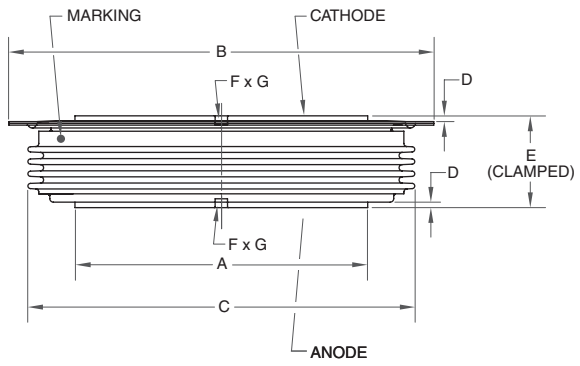
10 RCS8



Dim.	Inches	Millimeters
A	3.311 Dia.	84.1 Dia.
B	4.889 Dia.	124.2 Dia.
C	4.370 Dia.	111.0 Dia.
D	0.028 Min.	0.7 Min.

Dim.	Inches	Millimeters
E	1.059 Max.	26.9 Max.
F	0.142 Dia.	3.6 Dia.
G	0.0787 Deep	2.0 Deep

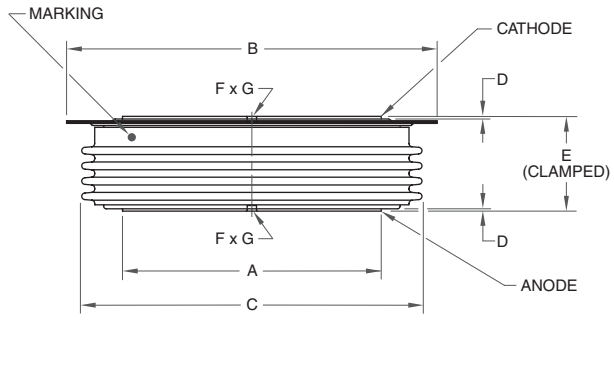
11 RDS8



Dim.	Inches	Millimeters
A	3.913 Dia.	99.4 Dia.
B	5.661 Dia.	143.8 Dia.
C	5.181 Dia.	131.6 Dia.
D	0.028 Min.	0.7 Min.

Dim.	Inches	Millimeters
E	1.059 Max.	26.9 Max.
F	0.142 Dia.	3.6 Dia.
G	0.0787 Deep	2.0 Deep

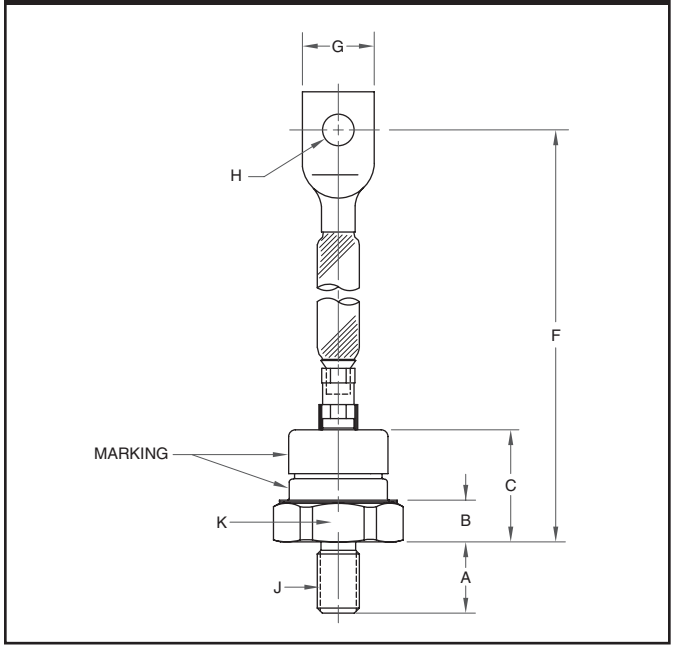
12 RDK8



Dim.	Inches	Millimeters
A	3.913 Dia.	99.4 Dia.
B	5.661 Dia.	143.8 Dia.
C	5.181 Dia.	131.6 Dia.
D	0.028 Min.	0.7 Min.

Dim.	Inches	Millimeters
E	1.5 Max.	38.1 Max.
F	0.142 Dia.	3.6 Dia.
G	0.0787 Deep	2.0 Deep

13 R500, R501, R502, R503



Dim.	Inches	Millimeters
A	0.626	15.9
B	0.358	9.1
C	0.980	24.9
F	4.606 Max.	117.0 Max.
G	0.654 Max.	16.6 Max.

Dim.	Inches	Millimeters
H	0.2795 Dia.	7.1 Dia.
J	0.375-24 UNF-2A Thread	
K	1.059 Max. (Across Flats)	26.9 Max.

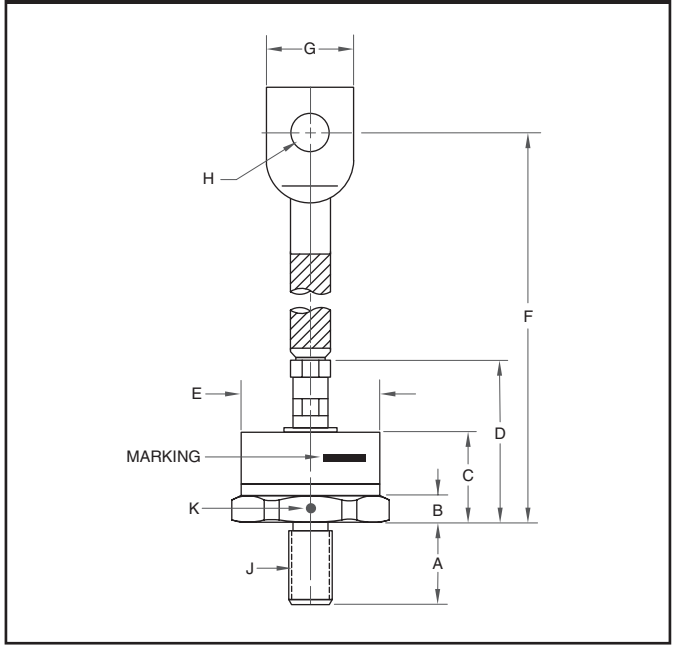
Forward Polarity

R500, R502

Reverse Polarity

R501, R503

14 R510, R511



Dim.	Inches	Millimeters
A	0.63	16.0
B	0.20	5.1
C	0.66	16.8
D	1.27	32.2
E	1.05 Dia.	26.7 Dia.
F	4.14 Max.	105.0 Max.

Dim.	Inches	Millimeters
G	0.63 Max.	16.0 Max.
H	0.281 Dia.	7.14 Dia.
J	0.375-24 UNF-2A Thread	
K	1.060 Max. (Across Flats)	26.92 Max.

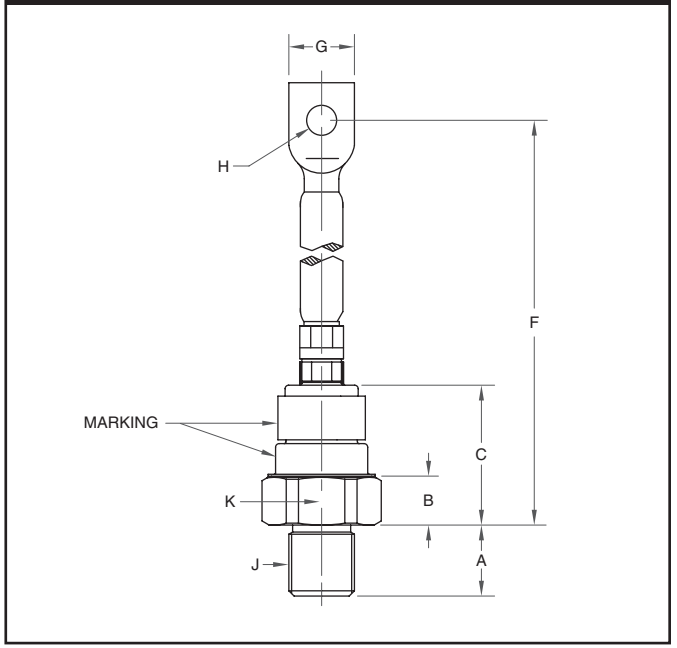
Forward Polarity

R510

Reverse Polarity

R511

15 R600, R601, R602, R603



Dim.	Inches	Millimeters
A	0.811	20.6
B	0.559	14.2
C	1.598	40.6
F	5.563 Max.	141.3 Max.
G	0.752 Max.	19.1 Max.

Dim.	Inches	Millimeters
H	0.343 Dia.	8.7 Dia.
J	0.750-16 UNF-2A Thread	
K	1.244 Max. (Across Flats)	31.6 Max.

Forward Polarity

R600, R602

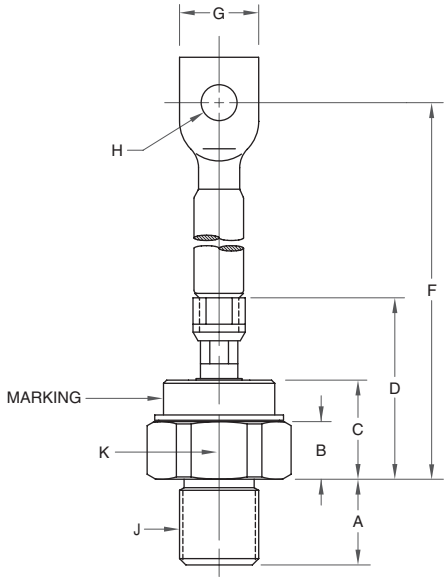
Reverse Polarity

R601, R603

Forward Polarity

R600, R602

16 R610, R611



Dim.	Inches	Millimeters
A	0.811	20.6
B	0.35	8.9
C	0.929	23.6
D	1.740	44.2
F	5.693 Max.	144.6 Max.
G	0.752 Max.	19.1 Max.

Dim.	Inches	Millimeters
H	0.3386 Dia.	8.6 Dia.
J	0.750-16 UNF-2A Thread	
K	1.248 Max. (Across Flats)	31.7 Max.

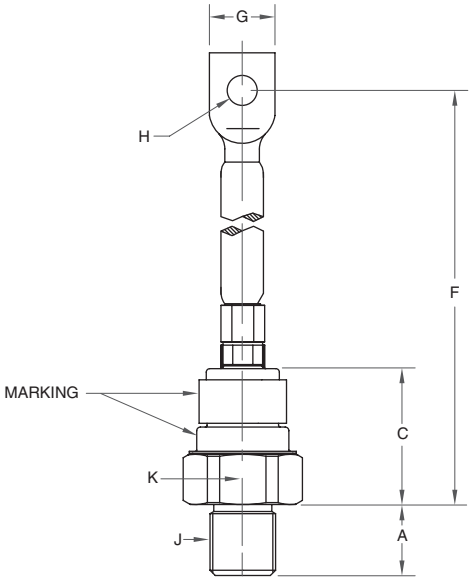
Forward Polarity

R610

Reverse Polarity

R611

17 R650



Dim.	Inches	Millimeters
A	0.822	20.88
C	1.56	39.68
F	5.56 Max.	141.228 Max.
G	19.05 Max.	0.75 Max.

Dim.	Inches	Millimeters
H	0.343 Dia.	8.72 Dia.
J	0.750-16 UNF-2A Thread	
K	1.245 Max. (Across Flats)	31.776 Max.

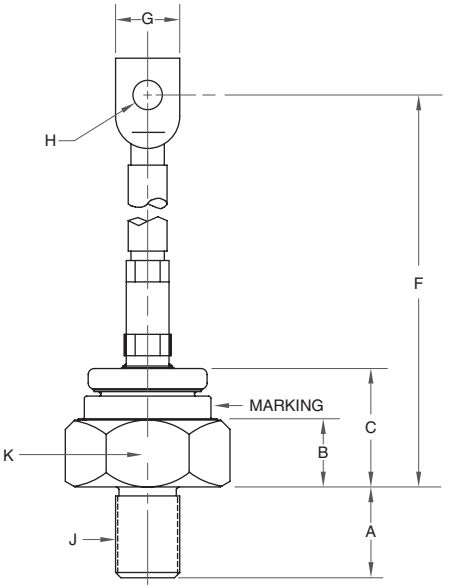
Forward Polarity

R650

Reverse Polarity

R651

18 R700, R701



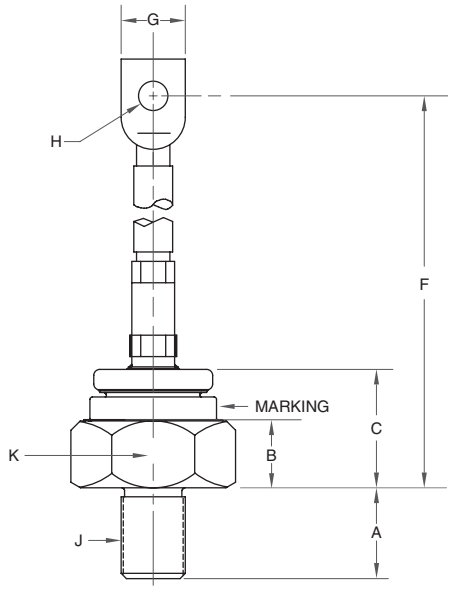
Dim.	Inches	Millimeters
A	1.059	26.9
B	0.7795	19.8
C	1.409	35.8
F	9.784 Max.	248.5 Max.
G	0.752 Max.	19.1 Max.

Dim.	Inches	Millimeters
H	0.343 Dia.	8.7 Dia.
J	0.750-16 UNF-2A Thread	
K	1.752 Max. (Across Flats)	44.5 Max.

Forward Polarity

R610

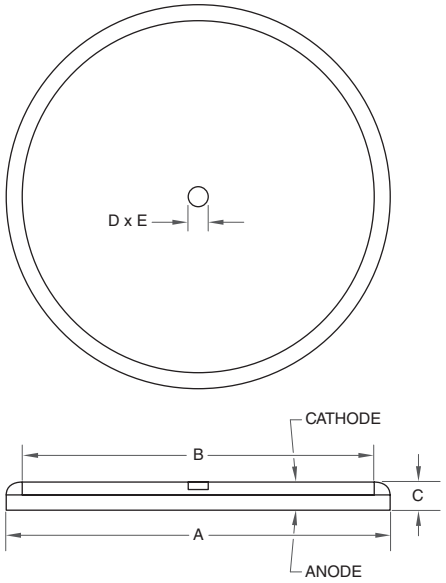
19 R750



Dim.	Inches	Millimeters
A	1.079	27.4
B	0.75	19.0
C	1.46	37.0
F	9.78 Max.	248.4 Max.

Dim.	Inches	Millimeters
G	0.740 Max.	21.5 Max.
H	0.355 Dia.	9.0 Dia.
J	0.375-24 UNF-2A Thread	
K	1.755 Max. (Across Flats)	44.6 Max.

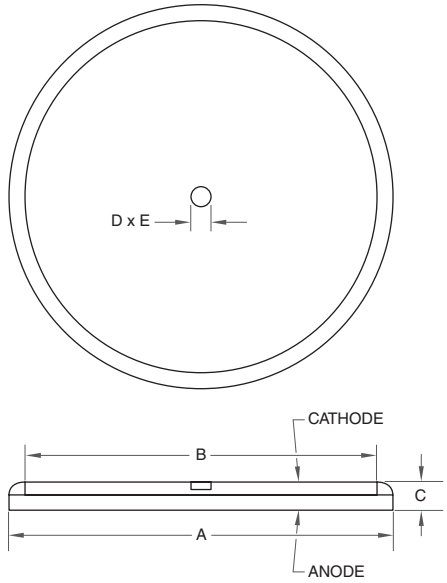
20 R9X



Dim.	Inches	Millimeters
A	2.20 Dia.	56.0 Dia.
B	1.937 Dia.	49.2 Dia.
C	0.2	5.0

Dim.	Inches	Millimeters
D	0.142 Dia.	3.6 Dia.
E	0.047 Deep	1.2 Deep

21 RAX



Dim.	Inches	Millimeters
A	2.56 Dia.	65.0 Dia.
B	2.28 Dia.	58.0 Dia.
C	0.20	5.0

Dim.	Inches	Millimeters
D	0.142 Dia.	3.6 Dia.
E	0.047 Deep	1.2 Deep

Forward Polarity

R750

Reverse Polarity

R751