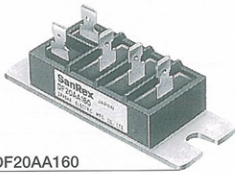
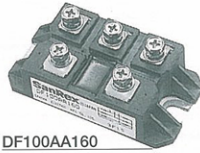


# DIODE



DF20AA160



DF100AA160

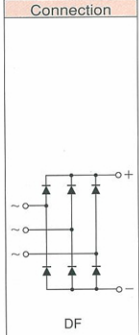


DD250HB160

## THREE PHASE DIODE (BRIDGE)

T<sub>J</sub>(max) : 150°C

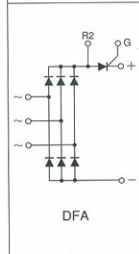
Type	V <sub>RRM</sub> (V)	I <sub>OC</sub>		I <sub>FSM</sub> A (60Hz)	V <sub>FM</sub> V (25°C)	I <sub>RRM</sub> mA (150°C)	V <sub>ISO</sub> V (RMS)	R <sub>thjc</sub> °C / W	Fig No.
		A	°C						
DF 20DB	400, 800	20	97	350	1.1	1.5	2000	1.2	6
DF 20CA	800~1600	20	123	600	1.1	8	2500	0.6	7
DF 20BA	400, 800	20	123	350	1.1	1.5	2500	0.6	7
DF 20AA	1200, 1600	20	119	240	1.25	3	2500	0.6	7
DF 30DB	400, 800	30	83	400	1.1	1.5	2000	1.0	6
DF 30CA	800~1600	30	122	850	1.1	8	2500	0.42	7
DF 30BA	400, 800	30	122	450	1.1	1.5	2500	0.42	7
DF 30AA	1200, 1600	30	117	300	1.3	3	2500	0.42	7
DF 40BA	400, 800	40	119	700	1.2	4	2500	0.32	8
DF 40AA	1200, 1600	40	117	700	1.3	3	2500	0.32	8
DF 50BA	400, 800	50	114	700	1.2	4	2500	0.30	11
DF 50AA	1200, 1600	50	114	700	1.2	8	2500	0.30	11
DF 60BA	400, 800	60	115	1000	1.2	6	2500	0.24	8
DF 60AA	1200, 1600	60	112	1000	1.3	12	2500	0.24	8
DF 75BA	400, 800	75	107	1000	1.2	10	2500	0.24	11
DF 75AA	1200, 1600	75	100	1000	1.4	10	2500	0.24	11
DF100BA	400, 800	100	102	1000	1.2	15	2500	0.2	11
DF100AA	1200, 1600	100	102	1000	1.2	15	2500	0.2	11
DF150BA	400, 800	150	100	1200	1.2	15	2500	0.14	12
DF150AA	1200, 1600	150	94	1100	1.35	15	2500	0.14	12
DF200BA	400, 800	200	102	2000	1.2	20	2500	0.10	12
DF200AA	1200, 1600	200	96	2000	1.35	20	2500	0.10	12



## THREE PHASE DIODE DF-LA / LB SERIES (BRIDGE)

T<sub>J</sub>(max) : 150°C

Type	V <sub>RRM</sub> (V)	I <sub>OC</sub>		I <sub>FSM</sub> A (60Hz)	V <sub>FM</sub> V (25°C)	I <sub>RRM</sub> mA (150°C)	V <sub>ISO</sub> V (RMS)	R <sub>thjc</sub> °C / W	Fig No.
		A	°C						
DF 60LA	800, 1600	60	111	800	1.3	8	2500	0.25	23
DF 60LB	800, 1600	60	111	800	1.3	8	2500	0.25	24
DF 75LA	800, 1600	75	101	1000	1.3	8	2500	0.25	23
DF 75LB	800, 1600	75	101	1000	1.3	8	2500	0.25	24
DF100LA	800, 1600	100	90	1300	1.3	12	2500	0.23	23
DF100LB	800, 1600	100	90	1300	1.3	12	2500	0.23	24



## THREE PHASE DIODE + THYRISTOR

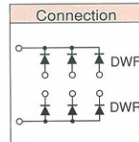
V<sub>ISO</sub> : 2500V (RMS)

Type	V <sub>RRM</sub> (V)	I <sub>OC</sub>		I <sub>FSM</sub> A (60Hz)	I <sub>T</sub> A'S	V <sub>FM(D)</sub> V (25°C)	I <sub>RRM(D)</sub> mA (150°C)	R <sub>thjc(D)</sub> °C / W	V <sub>FM(THY)</sub> V (25°C)	I <sub>RRM(THY)</sub> mA (135°C)	R <sub>thjc(THY)</sub> °C / W	Fig No.
		A	°C									
DFA 50BA	800, 1600	50	117	800	2660	1.30	8	0.25	1.25	50	0.80	19
DFA 75BA	800, 1600	75	101	1000	4150	1.30	8	0.25	1.20	60	0.40	19
DFA 100BA	800, 1600	100	98	1300	7030	1.30	12	0.20	1.20	70	0.36	19
DFA 150AA	800, 1600	150	93	1600	10670	1.35	15	0.14	1.35	100	0.21	21
DFA 200AA	800, 1600	200	96	2000	17000	1.35	20	0.1	1.15	50	0.18	21

## THREE PHASE DIODE (HALF BRIDGE)

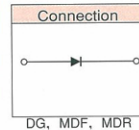
V<sub>FM</sub> : 1.15V (25°C) T<sub>J</sub>(max) : 150°C

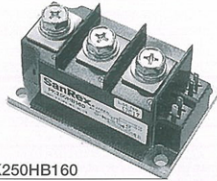
Type	V <sub>RRM</sub> (V)	I <sub>F(AV)</sub>		I <sub>F(RMS)</sub>		I <sub>FSM</sub> A (60Hz)	I <sub>T</sub> A'S	I <sub>RRM</sub> mA (125°C)	V <sub>ISO</sub> V (RMS)	R <sub>thjc</sub> °C / W	Fig No.
		A	°C	A	°C						
DWF (R) 40A	300, 400	40	122	62	122	800	2700	8	NON-ISO	0.6	3
DWF (R) 50A	300, 400	50	122	78	122	1000	4150	10	NON-ISO	0.5	3
DWF (R) 70A	300, 400	70	119	110	119	1400	8100	12	NON-ISO	0.4	3
DWF (R) 70BB	300, 400	70	106	110	106	1400	8100	12	2500	0.55	8
DWF (R) 100A	300, 400	100	122	160	122	2000	16600	15	NON-ISO	0.25	3



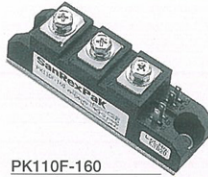
## OTHER DIODE

Type	V <sub>RRM</sub> (V)	I <sub>F(AV)</sub>		I <sub>FSM</sub> A (60Hz)	I <sub>T</sub> A'S	V <sub>FM</sub> V (25°C)	I <sub>RRM</sub> mA (125°C)	V <sub>ISO</sub> V (RMS)	T <sub>J</sub> °C	R <sub>thjc</sub> °C / W	Fig No.
		A	°C								
DG 20AA	400~1600	20	101	450	840	1.65	8	2500	150	1.6	1
MDF (R) 100A	300~500	100	109	2000	16700	1.15	6	NON-ISO	150	0.35	2
MDF (R) 150A	300~500	150	98	3000	37500	1.15	10	NON-ISO	150	0.3	2
MDF (R) 200A	300~500	200	92	4000	66600	1.15	13	NON-ISO	150	0.25	2
MDF (R) 250A	300~500	250	92	4500	84000	1.15	15	NON-ISO	150	0.2	2

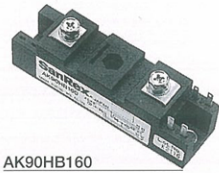




PK250HB160



PK110F-160



AK90HB160

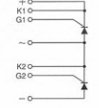
## ● THYRISTOR "G · H" "F" SERIES

Viso : 2500V (RMS) dv/dt : 500V/ $\mu$ s Tj : 125°C

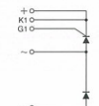
Type	V <sub>ORM</sub> / V <sub>RRM</sub> (V)	I <sub>T(AV)</sub>		I <sub>TSM</sub> A (60Hz)	I <sub>T</sub> A'S	I <sub>GT</sub> mA (125°C)	V <sub>GT</sub> V (25°C)	V <sub>TM</sub> V (25°C)	I <sub>RM</sub> /I <sub>RM</sub> mA (125°C)	R <sub>thjc</sub> C / W	Fig No.
		A	°C								
PK(PD,PE,KK) 25F	400~1600	25	96	580	1400	50	3	1.55	10	0.78	3
PK(PD,PE,KK) 25GB	400, 800	25	97	500	1000	50	3	1.5	4	0.8	4
PK(PD,PE,KK) 25HB	1200, 1600	25	94	500	1000	50	2	1.6	4	0.8	4
PK(PD,PE,KK) 40F	400~1600	40	96	1300	7200	70	3	1.4	15	0.55	3
PK(PD,PE,KK) 55F	400~1600	55	89	1750	12800	70	3	1.4	15	0.5	3
PK(PD,PE,KK) 55GB	400, 800	55	89	1100	5000	100	3	1.35	20	0.5	4
PK(PD,PE,KK) 55HB	1200, 1600	55	85	1100	5000	100	2	1.5	10	0.5	4
PK(PD,PE,KK) 70F	400~1600	70	94	1950	16200	70	3	1.4	15	0.33	3
PK(PD,PE,KK) 90F	400~1600	90	93	2300	22000	100	3	1.4	20	0.27	3
PK(PD,PE,KK) 90GB	400, 800	90	91	1800	15000	100	3	1.3	30	0.3	4
PK(PD,PE,KK) 90HB	1200, 1600	90	88	1800	15000	100	2	1.4	15	0.3	4
PK(PD,PE,KK) 110F	400~1600	110	88	2550	26500	100	3	1.45	20	0.25	3
PK(PD,PE,KK) 130F	400~1600	130	90	4400	8×10 <sup>4</sup>	100	3	1.4	50	0.2	5
PK(PD,PE,KK) 160F	400~1600	160	87	5500	1.25×10 <sup>5</sup>	100	3	1.42	50	0.18	5
PK(PD,PE) 200GB	400, 800	200	74	5000	1.25×10 <sup>5</sup>	100	3	1.5	50	0.18	5
PK(PD,PE) 200HB	1200, 1600	200	74	5500	1.25×10 <sup>5</sup>	100	3	1.5	50	0.18	5
PK(PD,PE) 250GB	400, 800	250	72	5500	1.25×10 <sup>5</sup>	100	3	1.60	50	0.14	5
PK(PD,PE) 250GB	1200, 1600	250	72	5500	1.25×10 <sup>5</sup>	100	3	1.60	50	0.14	5
SBA500AA	400~1600	500	66	10000	4.16×10 <sup>5</sup>	200	3	1.45	150	0.085	17
SSA500AA	400~1600	500	66	10000	4.16×10 <sup>5</sup>	200	3	1.45	150	1.085	26

※ UNDER DEVELOPMENT

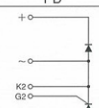
### Connection



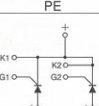
PK



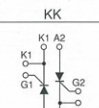
PD



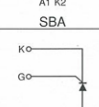
PE



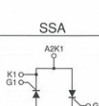
KK



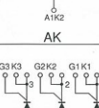
SBA



SSA



AK



PWB

## ● THYRISTOR PK-FG SERIES

Viso : 2500V (RMS) dv/dt : 500V/ $\mu$ s Tj : 125°C

Type	V <sub>RRM</sub> (V)	I <sub>T(AV)</sub>		I <sub>FSM</sub> A (60Hz)	I <sub>T</sub> A'S	V <sub>FM</sub> V (25°C)	I <sub>RM</sub> mA (125°C)	Tj °C	R <sub>thjc</sub> C / W	Fig No.
		A	°C							
PK(PD,PE) 25FG	400~1600	25	81	700	2870	1.6	5	125	1.1	3
PK(PD,PE) 40FG	400~1600	40	83	950	3760	1.6	10	125	0.65	3
PK(PD,PE) 55FG	400~1600	55	81	1300	7040	1.6	15	125	0.5	3
PK(PD,PE) 70FG	400~1600	70	84	1600	10660	1.6	20	125	0.37	3
PK(PD,PE) 90FG	400~1600	90	82	2300	22040	1.6	25	125	0.3	3
PK(PD,PE) 110FG	400~1600	110	81	3000	37500	1.6	30	125	0.25	3
PK(PD,PE) 130FG	400~1600	130	83	3500	51040	1.6	35	125	0.2	3
PK(PD) 160FG	400~1600	160	84	5400	125000	1.5	100	125	0.18	25
PK(PD) 200FG	400~1600	200	73	6500	180000	1.5	100	125	0.167	25

## ● ANTI-PARALLEL THYRISTOR MODULE

Viso : 2500V (RMS) dv/dt : 500V/ $\mu$ s Tj : 125°C

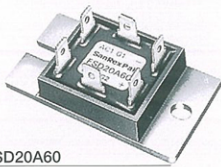
Type	V <sub>ORM</sub> / V <sub>RRM</sub> (V)	I <sub>T(AV)</sub>		I <sub>T(RMS)</sub>		I <sub>TSM</sub> A (60Hz)	I <sub>T</sub> A'S	I <sub>GT</sub> mA (25°C)	V <sub>GT</sub> V (25°C)	V <sub>TM</sub> V (25°C)	I <sub>RM</sub> /I <sub>RM</sub> mA (125°C)	R <sub>thjc</sub> C / W	Fig No.
		A	°C	A	°C								
AK25GB	400, 800	25	97	55	97	500	1000	50	3	1.5	8	0.8	16
AK25HB	1200, 1600	25	94	55	94	500	1000	50	2	1.6	8	0.8	16
AK55GB	400, 800	55	89	122	89	1100	5000	100	3	1.35	20	0.5	16
AK55HB	1200, 1600	55	85	122	85	1100	5000	100	2	1.5	20	0.5	16
AK90GB	400, 800	90	91	200	91	1800	15000	100	3	1.3	30	0.3	16
AK90HB	1200, 1600	90	88	200	88	1800	15000	100	2	1.4	30	0.3	16

## ● 3 PHASE THYRISTOR (HALF BRIDGE)

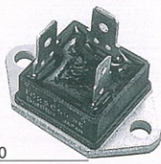
NON-ISO di/dt:50A/ $\mu$ s, V<sub>GT</sub>:2V(25°C), Tj:150°C

Type	V <sub>ORM</sub> /V <sub>RRM</sub> (V)	I <sub>T(AV)</sub>		I <sub>T(RMS)</sub>		I <sub>TSM</sub> A (60Hz)	I <sub>T</sub> A'S	dv/dt V/ $\mu$ s	I <sub>GT</sub> mA (25°C)	I <sub>H</sub> mA (25°C)	V <sub>TM</sub> V (25°C)	I <sub>RM</sub> /I <sub>RM</sub> mA (125°C)	R <sub>thjc</sub> C / W	Fig No.
		A	°C	A	°C									
PWB 60A	300, 400	50	123	94	123	1800	13500	50	150	100	1.25	10	0.35	13
PWB 80A	300, 400	80	116	125	116	2500	26000	50	150	100	1.2	12	0.35	13
PWB 100A	300, 400	100	114	157	114	3500	51000	50	150	70	1.2	15	0.3	13
PWB 130A	300, 400	130	112	204	112	3500	51000	50	150	70	1.2	30	0.20	13
PWB 200AA	300, 400	200	121	314	121	6000	149940	200	150	70	1.2	60(150°C)	0.12	14

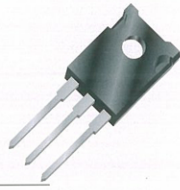
# THYRISTOR / TRIAC



FSD20A60



TG25C60

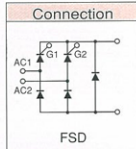


TMG20C60F

## BRIDGE TYPE THYRISTOR

di/dt:50A/ $\mu$ s, V<sub>GT</sub>:2V(25°C), T<sub>J</sub>:125°C

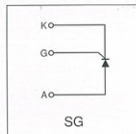
Type	V <sub>DRM</sub> /V <sub>RRM</sub> (V)	I <sub>T</sub> (AV)		I <sub>TSM</sub> A(60Hz)	I <sub>T</sub> A <sup>+</sup> S	dv/dt V/ $\mu$ s	I <sub>GT</sub> mA(25°C)	I <sub>H</sub> mA(25°C)	V <sub>TM</sub> V(25°C)	I <sub>ORM</sub> /I <sub>RRM</sub> mA(125°C)	R <sub>thjc</sub> C/W	Fig No.
		A	C									
FSD20A	300, 600	20	65	200	165	50	40	30	1.5	5	1	15



## ISOLATED TYPE THYRISTOR

V<sub>GT</sub>:3V(25°C), T<sub>J</sub>:125°C

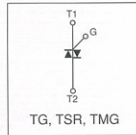
Type	V <sub>DRM</sub> /V <sub>RRM</sub> (V)	I <sub>T</sub> (AV)		I <sub>T</sub> (RMS)		I <sub>TSM</sub> A(60Hz)	I <sub>T</sub> A <sup>+</sup> S	dv/dt V/ $\mu$ s	I <sub>GT</sub> mA(25°C)	I <sub>H</sub> mA(25°C)	V <sub>TM</sub> V(25°C)	I <sub>ORM</sub> /I <sub>RRM</sub> mA(125°C)	R <sub>thjc</sub> C/W	Fig No.
		A	C	A	C									
SG16AA	400, 600	16	80	25	80	250	260	100	40	30	1.5	3	2	1
SG25AA	400, 600	25	70	39	70	500	1040	100	40	30	1.4	5	1.6	1



## ISOLATED TYPE TRIAC

V<sub>ISO</sub>:2500V(RMS) di/dt:50A/ $\mu$ s, V<sub>GT</sub>:3V(25°C), T<sub>J</sub>:125°C

Type	V <sub>DRM</sub> (V)	I <sub>T</sub> (AV)		I <sub>TSM</sub> A(60Hz)	I <sub>T</sub> A <sup>+</sup> S	(dv/dt) <sub>c</sub> V/ $\mu$ s	I <sub>GT</sub> mA(25°C)	I <sub>H</sub> mA(25°C)	V <sub>TM</sub> V(25°C)	I <sub>ORM</sub> mA(125°C)	R <sub>thjc</sub> C/W	Fig No.
		A	C									
TG16C	200~600	16	83	160	106	6	50	30	1.5	3	2.0	1
TG25C(E,D)	200~600	25	74	250	260	6	50	30	1.4	5	1.6	1
TG35C(E,D)	200~600	35	58	330	450	5	50	30	1.4	5	1.5	1
TG70AA	400, 600	70	58	1200	6000	6	50	100	1.35	10	0.83	18
TSR50AA	400, 600	50	94	800	2660	6	50	100	1.3	10	0.55	3
TSR70AA	400, 600	70	101	1000	4160	6	50	100	1.35	10	0.3	3
TSR100AA	400, 600	100	88	1200	6000	6	50	100	1.45	10	0.3	3



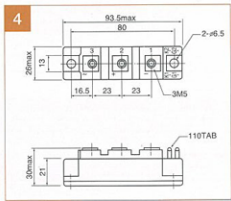
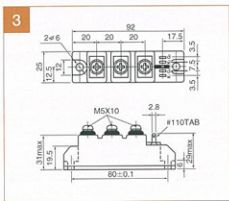
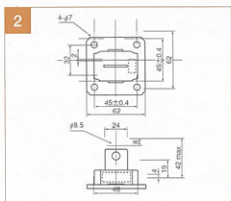
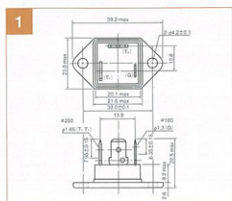
## TRIAC

\*III + mode (at 25°C)

Type	V <sub>DRM</sub> (V)	I <sub>T</sub> (rms) (A)		I <sub>T</sub> A <sup>+</sup> S	V <sub>TM</sub> (max) (V)		I <sub>GT</sub> (mA)		I <sub>H</sub> (typ) (mA)	R <sub>th(j-c)</sub> (C/W)	Fig No.
		A	T <sub>c</sub> (°C)		I <sub>T</sub>	I <sub>t</sub> (A)	I <sub>GT</sub>	I <sub>t</sub> (A)			
TMG5C60	600	5	107	12.6	1.4	7	20	10	3.0	28(TO220)	
TMG8C60	600	8	105	32	1.4	12	30	15	2.0	28(TO220)	
TMG10C60	600	10	103	50	1.4	15	30	20	1.8	28(TO220)	
TMG12C60	600	12	100	71	1.4	20	30	20	1.8	28(TO220)	
TMG16C60	600	16	98	120	1.4	25	30	25	1.4	28(TO220)	
TMG3D60F	600	3	110	3.7	1.4	4.5	5/10*	5	5.0	29(TO220F)	
TMG5C60F	600	5	100	12.6	1.4	7	30	10	4.0	29(TO220F)	
TMG8C60F	600	8	89*	32	1.4	12	30	15	3.7	29(TO220F)	
TMG10C60F	600	10	83	50	1.4	15	30	20	3.5	29(TO220F)	
TMG12C60F	600	12	79	71	1.4	20	30	20	3.3	29(TO220F)	
TMG16C60F	600	16	68	120	1.4	25	30	25	3.0	29(TO220F)	
TMG20C60F	600	20	66	165	1.4	30	30	25	2.5	29(TO220F)	
TMG25C60	600	25	80	260	1.4	35	30	35	1.3	30(TO247)	

\*NEW PRODUCT

## POWER MODULE DIMENSIONS



(m/m)

