

PHASE CONTROL SCR's HIGH CURRENT 55 TO 200 AMPERES

GE TYPE	C45, 46	C145	C50, 52	C150, 152	C60, 62	C350	C178
JEDEC			2N1909-16 2N1792-98		2N2023-30		

ELECTRICAL SPECIFICATIONS

VOLTAGE RANGE	25-800	500-1200	25-800	500-1300	25-800	500-1300	500-1300
FORWARD CONDUCTION							
$I_{T(RMS)}$ Max. RMS on-state current (A)	55	55	110	110	110	180	200
$I_{T(AV)}$ Max. average on-state current @ 180° conduction (A) @ T_C	35 @ 87°C	35 @ 90°C	70 @ 82°C	70 @ 80°C	70 @ 88°C	125 @ 80°C	127 @ 80°C
$I_{T(AV)}$ Max. average on-state current @ 120° conduction (A) @ T_C	29 @ 90°C	29 @ 93°C	60 @ 84°C	59 @ 87°C	59 @ 90°C	110 @ 80°C	100 @ 80°C
I_{TSM} Max. peak one cycle, non-repetitive surge current (A)	700	700	1000	1500	1000	1500	2500
I^2t Max. I^2t for fusing for 5 to 8.3 msec (A^2 sec)	2000	2000	4000	7000	4000	10,000	25,000
V_{FM} Peak on-state voltage @ 125°C, 180° conduction, rated $I_{T(AV)}$ (V)	2.1	2.2	1.8	2.0	1.8	2.7	2.05
θ_{J-C} Max. internal thermal resistance, dc, junction-to-case (°C/W)	.4	.4	.4	.3	.4	.135	.16
t_a Typical turn-off time (μ sec)	30	100	30	100	50	125	125
$t_c + t_r$ Typical turn-on time (μ sec)	5	5	5	8	5	8	8
di/dt Rate-of-rise turned-on current (A/ μ sec)	30	100-200	30	50-75	30	50-100	50-100
T_J Junction operating temperature range(°C)	-40 to 125°C	-40 to 125°C	-40 to 125°C	-40 to 125°C	-65 to 150°C	-40 to 125°C	-40 to 125°C

BLOCKING

dv/dt Min. critical rate-of-rise of off-state voltage, exponential @ max. rated T_J (V/ μ sec)	30 TYP.	200	30 TYP.	200	30 TYP.	200	200
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FIRING

I_{GT} Max. required gate current to trigger (mA) @ -40°C	125	300	125	200	125	200	200
	40	125	40	125	40	125	125
V_{GT} Max. required gate voltage to trigger (V) @ -40°C	3	3	3	3	3	3	3
V_{GT} Min. required gate voltage to trigger (V) @ 125°C	.25	.25	.25	.15	.25	.15	.15
PACKAGE TYPE	1/4" STUD	3/8" STUD	1/2" STUD	1/2" STUD	1/2" STUD	1/2" PRESS PAK	3/4" STUD

VOLTAGE TYPES

Repetitive Peak Forward and Reverse Voltages							
25	C45U C46U		2N1909 C52U		2N2023 C62U	—	
50	C45F C46F		2N1910 2N1792		2N2024 C62F	—	
100	C45A C46A		2N1911 2N1793		2N2025 C62A	C350A	
150	C45G C46G	CONSULT FACTORY	2N1912 2N1794	CONSULT FACTORY	2N2026 C62G	—	CONSULT FACTORY
200	C45B C46B		2N1913 2N1795		2N2027 C62B	C350B	
250	C45H C46H		2N1914 2N1796		2N2028 C62H	—	
300	C45C C46C		2N1915 2N1797		2N2029 C62C	C350C	
400	C45D C46D		2N1916 2N1798		2N2030 C62D	C350D	
500	C45E C46E	C145E	C50E C52E	C150E C152E	C60E C62E	C350E	C178E
600	C45M C46M	C145M	C50M C52M	C150M C152M	C60M C62M	C350M	C178M
700	C45S C46S	C145S	C50S C52S	C150S C152S	C60S C62S	C350S	C178S
800	C45N C46N	C145N	C50N C52N	C150N C152N	C60N C62N	C350N	C178N
900		C145T		C150T C152T		C350T	C178T
1000		C145P		C150P C152P		C350P	C178P
1100		C145PA		C150PA C152PA		C350PA	C178PA
1200		C145PB		C150PB C152PB		C350PB	C178PB
1300				C150PC C152PC		C350PC	
PACKAGE OUTLINE NO.	108, 109	108.1	108, 109	108, 109	108, 109	109.1	110
SPECIFICATION SHEET NO.	170.17	170.18	170.20	170.23	170.26	170.54	170.51