

SEMITRONICS



PHASE CONTROL SCR'S

7.4 TO 25 AMPERES

FEATURES

- LOW GATE CURRENT
- LOW ON-STATE VOLTAGE
- HIGH JUNCTION TEMPERATURE
- HERMETIC PACKAGING
- LOW THERMAL IMPEDANCE
- THERMAL FATIGUE RESISTANCE
- EXCELLENT SURGE RATING

APPLICATIONS

- PHASE CONTROL
- POWER SWITCHING

JTX2N1771A-1777A AVAILABLE IN JTX

TYPE	C10	C11	C15	C220-2	C126	C36	C37
JEDEC	2N1770A 77A	2N1770- 78 2N2619	2N1600A- 2N1604A	-	-	2N1842- 50	-

ELECTRICAL SPECIFICATIONS

VOLTAGE RANGE	25-400	25-600	25-600	25-600	25-600	25-600	25- 800
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FORWARD CONDUCTION

I_T (RMS)	MAX, RMS ON-STATE CURRENT (A)	7.4	7.4	8	10	12	16	25
$I_{T(AV)}$	MAX. AVERAGE ON-STATE CURRENT @ 180 CONDUCTION (A) @ T_C (°C)	4.7 @ 106°C	4.7 @ 105°C	5.1 @ 50°C	6.3 @ 68°C	7.8 @ 78°C	10.0 @ 35°C	16.0 @ 35°C
I_{TSM}	MAX PEAK ONE CYCLER, NON-REPETITIVE SURGE CURRENT (A)	60	60	60	90	120	125	125
I^2_T	MAX. I^2_T FOR FUSING FOR ≥ 1.5 MSEC (A^2 SEC).	.5	.5	-	27	-	-	40
V_{TM}	MAX. PEAK ON-STATE VOLTAGE @ 25°C, 180° CONDUCTION, RATED $I_{T(AV)}$ (V)	1.8	1.8	1.85	2.0	1.82	2.9	2.25
$R_{\theta JC}$	MAX. INTERNAL THERMAL RESISTANCE, DC, JUNCTION-TO-CASE (°C/W)	3.1	3.1	3.1	-	1.8	2.5	1.0
I_H	MAX. HOLDING CURRENT @ 25°C (MA)	25	-	30	30	30	20	10
T_Q	TYPICAL TURN-ON TIME (μ SEC) @ 100°C	-	-	-	-	-	50	-
	@ 125°C	40	40		-	-	-	-
T_D+T_R	TYPICAL TURN-ON TIME (μ SEC)	1.0	1.0	1.0	2.5	-	3	3
DI/DT	MAX, RATE-OF-RISE TURNED-ON CURRENT	60	40	40	100	100	20	20

	(A/ μ SEC)							
T_J	JUNCTION OPERATING TEMPERATURE RANGE (C)	-65 TO 150	-65 TO 120	-65 TO 105	-40 TO 100	-40 TO 110	-40 TO 100	-40 TO 105

BLOCKING

DV/DT	TYPICAL CRITICAL RATE-OF-RISE OF OFF-STATE VOLTAGE. EXPONENTIAL @ MAX. RATED T_J (V)/ μ SEC)	20	50	50	50	50	100	100
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FIRING

I_{GT}	MAX. REQUIRED GATE CURRENT TO TRIGGER (MA)							
	@-65°C	30	30	50	-	-	-	-
	@-40°C	-	-	-	40	40	150	150
	@-25°C	15	15	35	25	25	80	80
V_{GT}	MAX. REQUIRED GATE VOLTAGE TO TRIGGER (V)							
	@-65°C	2	2	2.5	-	-	-	-
	@-40°C	-	-	-	2.0	2.0	3.5	3.5
	@-25°C	1.35	1.35	-	1.5	1.5	-	-
V_{GT}	MIN. REQUIRED GATE VOLTAGE TO TRIGGER (V)							
	@-100°C	-	-	0.3	0.2	-	0.3	0.25
	@-110°C	-	-	-	-	0.2	-	-
	@-125°C	-	0.3	-	-	-	-	-
	@-150°C	-	-	-	-	-	-	-

VOLTAGE TYPES

REPETITIVE PEAK FORWARD AND REVERSE VOLTAGES

25	2N1770A C10U	2N1770 C11U	C15U	C220U C222U	-	2N1842 C36U	C37U
50	2N1771A C10F	2N1771 C11F	C15F 2N1600	C220F C222F	C126F	2N1843 C36F	C37F
100	2N1772A C10A	2N1772 C11A	C15A 2N1601	C220A C222A	C126A	2N1844 C36A	C37A
150	2N1773A C10G	2N1773 C11G	C15G	-	-	2N1845 C38G	-
200	2N1774A C10B	2N1774 C11B	C15B 2N1602	C220B C222B	C126B	2N1846 C36B	C37B
250	2N1775A C10H	2N1775 C11H	C15H	-	-	2N1847 C36H	-
300	2N1776A C10C	2N1776 C11C	C15C 2N1603	C220C C222C	C126C	2N1848 C36C	C37C
400	2N1777A C10D	2N1777 C11D	C15D 2N1604	C220D C222D	C126D	2N1849 C36D	C37D
500	-	2N1778 C11E	C15E	C220E C222E	C126E	2N1850 C36E	C37E
600	-	2N2619 C11M	C15M	C220M C222M	C126M	C36M	C37M
700	-	-	-	-	-	C36S	C37S
800	-	-	-	-	-	C36N	C37N
PACKAGE OUTLINE NO.	104	104	104	241 (C222) 242,3,4,5 & 6 (C220)	230.2	107	107