

# Thyristors

Advanced Power Switching



Reference Guide

STMicroelectronics  
More Intelligent Solutions



## SENSITIVE GATE SCR<sub>s</sub> (T<sub>j</sub> max = 125°C)

I <sub>T</sub> (RMS) (A)	V <sub>RRM</sub> /V <sub>DRM</sub> (V)	P/N	I <sub>TSM</sub> * (A)	I <sub>GT</sub> max (μA)	I <sub>H</sub> max (mA)	V <sub>TM</sub> @ I <sub>TM</sub>		dV/dt min @ T <sub>j</sub> max (V/μs)	Package
						(V)	(A)		
0.25	200	P0102BL	6	200	5	1.7	0.4	200	SOT-23
0.8	400	P0102DA	7	200	5	1.95	1.6	75	TO-92
0.8	400	P0102DN	7	200	5	1.95	1.6	75	SOT-223
0.8	400	P0111DA	7	25	5	1.95	1.6	80	TO-92
0.8	400	P0111DN	7	25	5	1.95	1.6	80	SOT-223
0.8	400	P0118DA	7	5	5	1.95	1.6	75	TO-92
0.8	400	P0118DN	7	5	5	1.95	1.6	75	SOT-223
0.8	400	XL0840	7	200	5	1.95	1.6	75	TO-92
0.8	600	P0102MA	7	200	5	1.95	1.6	75	TO-92
0.8	600	P0102MN	7	200	5	1.95	1.6	75	SOT-223
0.8	600	P0111MA	7	25	5	1.95	1.6	80	TO-92
0.8	600	P0111MN	7	25	5	1.95	1.6	80	SOT-223
0.8	600	P0118MA	7	5	5	1.95	1.6	75	TO-92
0.8	600	P0118MN	7	5	5	1.95	1.6	75	SOT-223
0.8	600	X00602MA	9	200	5	1.35	1	25	TO-92
1.25	600	X0202MA	22.5	200	5	1.45	2.5	10	TO-92
1.25	600	X0202MN	22.5	200	5	1.45	2.5	10	SOT-223
1.25	600	X0205MA	22.5	50	5	1.45	2.5	15	TO-92
1.25	600	X0205MN	22.5	50	5	1.45	2.5	15	SOT-223
1.25	800	X0202NA	22.5	200	5	1.45	2.5	10	TO-92
1.25	800	X0202NN	22.5	200	5	1.45	2.5	10	SOT-223
1.25	800	X0205NA	22.5	50	5	1.45	2.5	15	TO-92
1.25	800	X0205NN	22.5	50	5	1.45	2.5	15	SOT-223
4	600	TS420-600B	30	200	5	1.6	8	5	DPAK
4	600	TS420-600H	30	200	5	1.6	8	5	IPAK
4	600	TS420-600T	30	200	5	1.6	8	5	TO-220AB
4	600	X0402MF	30	200	5	1.8	8	10	TO202-3
4	600	X0405MF	30	50	5	1.8	8	15	TO202-3
4	700	TS420-700B	30	200	5	1.6	8	5	DPAK
4	700	TS420-700H	30	200	5	1.6	8	5	IPAK
4	700	TS420-700T	30	200	5	1.6	8	5	TO-220AB
4	800	X0402NF	30	200	5	1.8	8	10	TO202-3
4	800	X0405NF	30	50	5	1.8	8	15	TO202-3
8	600	TS820-600B	70	200	5	1.6	16	5	DPAK
8	600	TS820-600H	70	200	5	1.6	16	5	IPAK
8	600	TS820-600T	70	200	5	1.6	16	5	TO-220AB
8	700	TS820-700B	70	200	5	1.6	16	5	DPAK
8	700	TS820-700H	70	200	5	1.6	16	5	IPAK
8	700	TS820-700T	70	200	5	1.6	16	5	TO-220AB
12	600	TS1220-600B	110	200	5	1.6	24	5	DPAK
12	600	TS1220-600H	110	200	5	1.6	24	5	IPAK
12	700	TS1220-700B	110	200	5	1.6	24	5	DPAK
12	700	TS1220-700H	110	200	5	1.6	24	5	IPAK

I<sub>TSM</sub>, I<sub>GT</sub>, I<sub>H</sub> and V<sub>TM</sub> specified at T<sub>j</sub> = 25°C

\* t<sub>p</sub> = 10ms

New products in green characters



# STANDARD SCRs (T<sub>j</sub> max = 125°C)

I <sub>T</sub> (RMS) (A)	V <sub>RRM</sub> /V <sub>DRM</sub> (V)	P / N	I <sub>TSM</sub> * (A)	I <sub>GT</sub> max (mA)	I <sub>H</sub> max (mA)	V <sub>TM</sub> @ I <sub>TM</sub>		dV/dt min @ T <sub>j</sub> max (V/μs)	Package
						(V)	(A)		
8	600	TN805-600B	70	5	25	1.6	16	50	DPAK
8	600	TN805-600H	70	5	25	1.6	16	50	IPAK
8	600	TN815-600B	70	15	40	1.6	16	150	DPAK
8	600	TN815-600H	70	15	40	1.6	16	150	IPAK
8	600	TYN608	95	15	30	1.6	16	150	TO-220AB
8	800	TN805-800B	70	5	20	1.6	16	50	DPAK
8	800	TN805-800H	70	5	20	1.6	16	50	IPAK
8	800	TN815-800B	70	15	40	1.6	16	150	DPAK
8	800	TN815-800H	70	15	40	1.6	16	150	IPAK
8	800	TYN808	95	15	30	1.6	16	150	TO-220AB
8	1000	TYN1008	95	15	30	1.6	16	150	TO-220AB
12	600	TN1215-600B	110	15	40	1.6	24	200	DPAK
12	600	TN1215-600H	110	15	40	1.6	24	200	IPAK
12	600	TN1215-600G	140	15	30	1.6	24	200	D <sup>2</sup> PAK
12	600	TN1215-600H	110	15	40	1.6	24	200	IPAK
12	600	TYN612	140	15	30	1.6	24	200	TO-220AB
12	600	TYN612T	140	5	15	1.6	24	40	TO-220AB
12	800	TN1215-800B	110	15	40	1.6	24	200	DPAK
12	800	TN1215-800H	110	15	40	1.6	24	200	IPAK
12	800	TN1215-800G	140	15	30	1.6	24	200	D <sup>2</sup> PAK
12	800	TN1215-800H	110	15	40	1.6	24	200	IPAK
12	800	TYN812	140	15	30	1.6	24	200	TO-220AB
12	800	TYN812T	140	5	15	1.6	24	40	TO-220AB
12	1000	TN1215-1000G	140	15	30	1.6	24	200	D <sup>2</sup> PAK
12	1000	TYN1012	140	15	30	1.6	24	200	TO-220AB
12	1000	TYN1012T	140	5	15	1.6	24	40	TO-220AB
16	600	TN1625-600G	190	25	40	1.6	32	500	D <sup>2</sup> PAK
16	600	TYN616	190	25	40	1.6	32	500	TO-220AB
16	800	TN1625-800G	190	25	40	1.6	32	500	D <sup>2</sup> PAK
16	800	TYN816	190	25	40	1.6	32	500	TO-220AB
16	1000	TN1625-1000G	190	25	40	1.6	32	500	D <sup>2</sup> PAK
16	1000	TYN1016	190	25	40	1.6	32	500	TO-220AB
25	600	TN2540-600G	300	40	50	1.6	50	500	D <sup>2</sup> PAK
25	600	TYN625	300	40	50	1.6	50	500	TO-220AB
25	800	TN2540-800G	300	40	50	1.6	50	500	D <sup>2</sup> PAK
25	800	TYN825	300	40	50	1.6	50	500	TO-220AB
25	1000	TN2540-1000G	300	40	50	1.6	50	500	D <sup>2</sup> PAK
25	1000	TYN1025	300	40	50	1.6	50	500	TO-220AB
40	600	TN4035-600G	460	35	75	1.6	80	1000	D <sup>2</sup> PAK
40	600	TYN640	460	35	75	1.6	80	1000	TO-220AB
40	800	TYN840	460	35	75	1.6	80	1000	TO-220AB
40	1000	TYN1040	460	35	75	1.6	80	1000	TO-220AB
50	600	BTW67-600	580	80	150	1.9	100	500	RD91
50	600	BTW69-600	580	80	150	1.9	100	500	TOP3
50	800	BTW67-800	580	80	150	1.9	100	500	RD91
50	800	BTW69-800	580	80	150	1.9	100	500	TOP3
50	1200	BTW67-1200	580	80	150	1.9	100	500	RD91
50	1200	BTW69-1200	580	80	150	1.9	100	500	TOP3

I<sub>TSM</sub>, I<sub>GT</sub>, I<sub>H</sub> and V<sub>TM</sub> specified at T<sub>j</sub> = 25°C

\* t<sub>p</sub> = 10ms

New products in green characters



## SCR MODULES

I <sub>T</sub> (RMS) (A)	V <sub>RRM</sub> /V <sub>DRM</sub> (V)	P / N	I <sub>TSM</sub> (1) (A)	I <sub>GT</sub> max (mA)	I <sub>H</sub> max (mA)	V <sub>TM</sub> @ I <sub>TM</sub>		dV/dt min @ T <sub>j</sub> max (V/μs)	Package
						(V)	(A)		
50	800	MDS35-800	400	50	80	1.7	80	1000	ISOTOP
50	1200	MDS35-1200	400	50	80	1.7	80	1000	ISOTOP
55	800	MSS40-800	400 (2)	50	80	1.7	80	1000	ISOTOP
55	1200	MSS40-1200	400 (2)	50	80	1.7	80	1000	ISOTOP
70	800	MDS50-800	600	50	80	1.75	110	1000	ISOTOP
70	800	MSS50-800	600 (2)	50	80	1.7	100	1000	ISOTOP
70	1200	MDS50-1200	600	50	80	1.75	110	1000	ISOTOP
70	1200	MSS50-1200	600 (2)	50	80	1.7	100	1000	ISOTOP
85	800	MDS80-800	700	100	80	1.75	170	1000	ISOTOP
85	1200	MDS80-1200	700	100	80	1.75	170	1000	ISOTOP

I<sub>TSM</sub>, I<sub>GT</sub>, I<sub>H</sub> and V<sub>TM</sub> specified at T<sub>j</sub> = 25°C  
MSS: two SCRs in back-to-back configuration

(1) tp = 10ms unless otherwise specified  
MDS: one SCR and one diode configuration

(2) tp = 20ms

## STANDARD TRIACS (T<sub>j</sub> max = 125°C)

I <sub>T</sub> (RMS) (A)	V <sub>RRM</sub> /V <sub>DRM</sub> (V)	P / N	I <sub>TSM</sub> * (A)	I <sub>GT</sub> max (I → III) (mA)	I <sub>GT</sub> max (IV) (mA)	V <sub>TM</sub> @ I <sub>TM</sub>		(dV/dt) min (V/μs)	dV/dt min (V/μs)	Package
						(V)	(A)			
0.8	600	Z00607MA	9	5	7	1.5	1.1	1.5	10	TO-92
1	600	Z0103MA	8	3	5	1.6	1.4	0.5	10	TO-92
1	600	Z0103MN	8	3	5	1.6	1.4	0.5	10	SOT-223
1	600	Z0107MA	8	5	7	1.6	1.4	1	20	TO-92
1	600	Z0107MN	8	5	7	1.6	1.4	1	20	SOT-223
1	600	Z0109MA	8	10	10	1.6	1.4	2	50	TO-92
1	600	Z0109MN	8	10	10	1.6	1.4	2	50	SOT-223
1	600	Z0110MA	8	25	25	1.6	1.4	5	100	TO-92
1	600	Z0110MN	8	25	25	1.6	1.4	5	100	SOT-223
1	700	Z0103SA	8	3	5	1.6	1.4	0.5	10	TO-92
1	700	Z0103SN	8	3	5	1.6	1.4	0.5	10	SOT-223
1	700	Z0107SA	8	5	7	1.6	1.4	1	20	TO-92
1	700	Z0107SN	8	5	7	1.6	1.4	1	20	SOT-223
1	700	Z0109SA	8	10	10	1.6	1.4	2	50	TO-92
1	700	Z0109SN	8	10	10	1.6	1.4	2	50	SOT-223
1	700	Z0110SA	8	25	25	1.6	1.4	5	100	TO-92
1	700	Z0110SN	8	25	25	1.6	1.4	5	100	SOT-223
1	800	Z0103NA	8	3	5	1.6	1.4	0.5	10	TO-92
1	800	Z0103NN	8	3	5	1.6	1.4	0.5	10	SOT-223
1	800	Z0107NA	8	5	7	1.6	1.4	1	20	TO-92
1	800	Z0107NN	8	5	7	1.6	1.4	1	20	SOT-223
1	800	Z0109NA	8	10	10	1.6	1.4	2	50	TO-92
1	800	Z0109NN	8	10	10	1.6	1.4	2	50	SOT-223
1	800	Z0110NA	8	25	25	1.6	1.4	5	100	TO-92
1	800	Z0110NN	8	25	25	1.6	1.4	5	100	SOT-223
<b>4</b>	<b>600</b>	<b>BTB04-600SL</b>	<b>35</b>	<b>10</b>	<b>25</b>	<b>1.5</b>	<b>5</b>	<b>10</b>	<b>75</b>	<b>TO-220AB</b>
4	600	Z0402MF	20	3	3	2	5.5	0.5	100	TO202-3
4	600	Z0405MF	20	5	5	2	5.5	1	20	TO202-3
4	600	Z0409MF	20	10	10	2	5.5	2	100	TO202-3
4	600	Z0410MF	20	25	25	2	5.5	5	200	TO202-3
4	700	Z0402SF	20	3	3	2	5.5	0.5	10	TO202-3
4	700	Z0405SF	20	5	5	2	5.5	1	20	TO202-3
4	700	Z0409SF	20	10	10	2	5.5	2	100	TO202-3
4	700	Z0410SF	20	25	25	2	5.5	5	200	TO202-3
4	800	Z0402NF	20	3	3	2	5.5	0.5	10	TO202-3
4	800	Z0405NF	20	5	5	2	5.5	1	20	TO202-3
4	800	Z0409NF	20	10	10	2	5.5	2	100	TO202-3
4	800	Z0410NF	20	25	25	2	5.5	5	200	TO202-3
6	600	BTA06-600B	60	50	100	1.55	8.5	10	400	TO-220AB Ins.
6	600	BTA06-600C	60	25	50	1.55	8.5	5	200	TO-220AB Ins.
6	600	BTB06-600B	60	50	100	1.55	8.5	10	400	TO-220AB

I<sub>TSM</sub>, I<sub>GT</sub> and V<sub>TM</sub> specified at T<sub>j</sub> = 25°C

\* tp = 20ms

New products in green characters

# STANDARD TRIACS (T<sub>j</sub> max = 125°C)

Cont'd

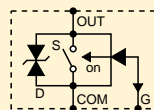
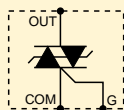
I <sub>T</sub> (RMS) (A)	V <sub>RRM</sub> /V <sub>DRM</sub> (V)	P/N	I <sub>TSM</sub> * (A)	I <sub>GT</sub> max (I → III) (mA)	I <sub>GT</sub> max (IV) (mA)	V <sub>TM</sub> @ I <sub>TM</sub>		dV/dt <sub>c</sub> min (V/μs)	dV/dt <sub>min</sub> (V/μs)	Package
						(V)	(A)			
6	600	BTB06-600C	60	25	50	1.55	8.5	5	200	TO-220AB
6	800	BTA06-800B	60	50	100	1.55	8.5	10	400	TO-220AB Ins.
6	800	BTA06-800C	60	25	50	1.55	8.5	5	200	TO-220AB Ins.
6	800	BTB06-800B	60	50	100	1.55	8.5	10	400	TO-220AB
6	800	BTB06-800C	60	25	50	1.55	8.5	5	200	TO-220AB
8	600	BTA08-600B	80	50	100	1.55	11	10	400	TO-220AB Ins.
8	600	BTA08-600C	80	25	50	1.55	11	5	200	TO-220AB Ins.
8	600	BTB08-600B	80	50	100	1.55	11	10	400	TO-220AB
8	600	BTB08-600C	80	25	50	1.55	11	5	200	TO-220AB
8	800	BTA08-800B	80	50	100	1.55	11	10	400	TO-220AB Ins.
8	800	BTA08-800C	80	25	50	1.55	11	5	200	TO-220AB Ins.
8	800	BTB08-800B	80	50	100	1.55	11	10	400	TO-220AB
8	800	BTB08-800C	80	25	50	1.55	11	5	200	TO-220AB
10	600	BTA10-600B	100	50	100	1.55	14	10	400	TO-220AB Ins.
10	600	BTA10-600C	100	25	50	1.55	14	5	200	TO-220AB Ins.
10	600	BTB10-600B	100	50	100	1.55	14	10	400	TO-220AB
10	600	BTB10-600C	100	25	50	1.55	14	5	200	TO-220AB
10	800	BTA10-800B	100	50	100	1.55	14	10	400	TO-220AB Ins.
10	800	BTA10-800C	100	25	50	1.55	14	5	200	TO-220AB Ins.
10	800	BTB10-800B	100	50	100	1.55	14	10	400	TO-220AB
10	800	BTB10-800C	100	25	50	1.55	14	5	200	TO-220AB
12	600	BTA12-600B	120	50	100	1.55	17	10	400	TO-220AB Ins.
12	600	BTA12-600C	120	25	50	1.55	17	5	200	TO-220AB Ins.
12	600	BTB12-600B	120	50	100	1.55	17	10	400	TO-220AB
12	600	BTB12-600C	120	25	50	1.55	17	5	200	TO-220AB
12	800	BTA12-800B	120	50	100	1.55	17	10	400	TO-220AB Ins.
12	800	BTA12-800C	120	25	50	1.55	17	5	200	TO-220AB Ins.
12	800	BTB12-800B	120	50	100	1.55	17	10	400	TO-220AB
12	800	BTB12-800C	120	25	50	1.55	17	5	200	TO-220AB
16	600	BTA16-600B	160	50	100	1.55	22.5	10	400	TO-220AB Ins.
16	600	BTA16-600C	160	25	50	1.55	22.5	5	200	TO-220AB Ins.
16	600	BTB16-600B	160	50	100	1.55	22.5	10	400	TO-220AB
16	600	BTB16-600C	160	25	50	1.55	22.5	5	200	TO-220AB
16	800	BTA16-800B	160	50	100	1.55	22.5	10	400	TO-220AB Ins.
16	800	BTA16-800C	160	25	50	1.55	22.5	5	200	TO-220AB Ins.
16	800	BTB16-800B	160	50	100	1.55	22.5	10	400	TO-220AB
16	800	BTB16-800C	160	25	50	1.55	22.5	5	200	TO-220AB
25	600	BTA25-600B	250	50	100	1.55	35	10	500	RD91
25	600	BTA26-600B	250	50	100	1.55	35	10	500	TOP3
25	600	BTB24-600B	250	50	100	1.55	35	10	500	TO-220AB
25	600	BTB26-600B	250	50	100	1.55	35	10	500	TOP3
25	800	BTA25-800B	250	50	100	1.55	35	10	500	RD91
25	800	BTA26-800B	250	50	100	1.55	35	10	500	TOP3
25	800	BTB24-800B	250	50	100	1.55	35	10	500	TO-220AB
40	600	BTA40-600B	400	50	100	1.55	60	10	500	RD91
40	600	BTA41-600B	400	50	100	1.55	60	10	500	TOP3
40	600	BTB41-600B	400	50	100	1.55	60	10	500	TOP3
40	800	BTA40-800B	400	50	100	1.55	60	10	500	RD91
40	800	BTA41-800B	400	50	100	1.55	60	10	500	TOP3
40	800	BTB41-800B	400	50	100	1.55	60	10	500	TOP3

I<sub>TSM</sub>, I<sub>GT</sub> and V<sub>TM</sub> specified at T<sub>j</sub> = 25°C

\* tp = 20ms

New products in green characters

## PRODUCT SYMBOLS



# SNUBBERLESS & LOGIC LEVEL TRIACS

I <sub>T</sub> (RMS) (A)	V <sub>RRM</sub> /V <sub>DRM</sub> (V)	P / N	I <sub>TSM</sub> * (A)	I <sub>GT</sub> max (I → III) (mA)	V <sub>TM</sub> @ I <sub>TM</sub>		(di/dt) <sub>c</sub> min (A/ms)	dv/dt min (V/μs)	Package
					(V)	(A)			
4	600	T405-600B	30	5	1.6	5.5	0.9	20	DPAK
4	600	T405-600H	30	5	1.6	5.5	0.9	20	IPAK
4	600	T405-600T	30	5	1.6	5.5	0.9	20	TO-220AB
4	600	T405-600W	30	5	1.6	5.5	0.9	20	ISOWATT220AB
4	600	T410-600B	30	10	1.6	5.5	2	40	DPAK
4	600	T410-600H	30	10	1.6	5.5	2	40	IPAK
4	600	T410-600T	30	10	1.6	5.5	2	40	TO-220AB
4	600	T410-600W	30	10	1.6	5.5	2	40	ISOWATT220AB
4	600	T435-600B	30	35	1.6	5.5	2.5	400	DPAK
4	600	T435-600H	30	35	1.6	5.5	2.5	400	IPAK
4	600	T435-600T	30	35	1.6	5.5	2.5	400	TO-220AB
4	600	T435-600W	30	35	1.6	5.5	2.5	400	ISOWATT220AB
4	700	T405-700B	30	5	1.6	5.5	0.9	20	DPAK
4	700	T405-700H	30	5	1.6	5.5	0.9	20	IPAK
4	700	T405-700T	30	5	1.6	5.5	0.9	20	TO-220AB
4	700	T405-700W	30	5	1.6	5.5	0.9	20	ISOWATT220AB
4	700	T410-700B	30	10	1.6	5.5	2	40	DPAK
4	700	T410-700H	30	10	1.6	5.5	2	40	IPAK
4	700	T410-700T	30	10	1.6	5.5	2	40	TO-220AB
4	700	T410-700W	30	10	1.6	5.5	2	40	ISOWATT220AB
4	700	T435-700B	30	35	1.6	5.5	2.5	400	DPAK
4	700	T435-700H	30	35	1.6	5.5	2.5	400	IPAK
4	700	T435-700T	30	35	1.6	5.5	2.5	400	TO-220AB
4	700	T435-700W	30	35	1.6	5.5	2.5	400	ISOWATT220AB
4	800	T405-800B	30	5	1.6	5.5	0.9	20	DPAK
4	800	T405-800H	30	5	1.6	5.5	0.9	20	IPAK
4	800	T405-800T	30	5	1.6	5.5	0.9	20	TO-220AB
4	800	T405-800W	30	5	1.6	5.5	0.9	20	SOWATT220AB
4	800	T410-800B	30	10	1.6	5.5	2	40	DPAK
4	800	T410-800H	30	10	1.6	5.5	2	40	IPAK
4	800	T410-800T	30	10	1.6	5.5	2	40	TO-220AB
4	800	T410-800W	30	10	1.6	5.5	2	40	ISOWATT220AB
4	800	T435-800B	30	35	1.6	5.5	2.5	400	DPAK
4	800	T435-800H	30	35	1.6	5.5	2.5	400	IPAK
4	800	T435-800T	30	35	1.6	5.5	2.5	400	TO-220AB
4	800	T435-800W	30	35	1.6	5.5	2.5	400	ISOWATT220AB
6	600	BTA06-600BW	60	50	1.55	8.5	5.3	1000	TO-220AB Ins.
6	600	BTA06-600CW	60	35	1.55	8.5	3.5	400	TO-220AB Ins.
6	600	BTA06-600SW	60	10	1.55	8.5	2.4	40	TO-220AB Ins.
6	600	BTA06-600TW	60	5	1.55	8.5	1.2	20	TO-220AB Ins.
6	600	BTB06-600BW	60	50	1.55	8.5	5.3	1000	TO-220AB
6	600	BTB06-600CW	60	35	1.55	8.5	3.5	400	TO-220AB
6	600	BTB06-600SW	60	10	1.55	8.5	2.4	40	TO-220AB
6	600	BTB06-600TW	60	5	1.55	8.5	1.2	20	TO-220AB
6	600	T620-600W	80	20	1.4	8.5	3.3	300	ISOWATT220AB
6	600	T630-600W	80	30	1.4	8.5	4.5	500	ISOWATT220AB
6	800	BTA06-800BW	60	50	1.55	8.5	5.3	1000	TO-220AB Ins.
6	800	BTA06-800CW	60	35	1.55	8.5	3.5	400	TO-220AB Ins.
6	800	BTA06-800SW	60	10	1.55	8.5	2.4	40	TO-220AB Ins.
6	800	BTA06-800TW	60	5	1.55	8.5	1.2	20	TO-220AB Ins.
6	800	BTB06-800BW	60	50	1.55	8.5	5.3	1000	TO-220AB
6	800	BTB06-800CW	60	35	1.55	8.5	3.5	400	TO-220AB
6	800	BTB06-800SW	60	10	1.55	8.5	2.4	40	TO-220AB
6	800	BTB06-800TW	60	5	1.55	8.5	1.2	20	TO-220AB
8	600	BTA08-600BW	80	50	1.55	11	7	1000	TO-220AB Ins.
8	600	BTA08-600CW	80	35	1.55	11	4.5	400	TO-220AB Ins.
8	600	BTA08-600SW	80	10	1.55	11	2.8	40	TO-220AB Ins.
8	600	BTA08-600TW	80	5	1.55	11	1.5	20	TO-220AB Ins.
8	600	BTB08-600BW	80	50	1.55	11	7	1000	TO-220AB

I<sub>TSM</sub>, I<sub>GT</sub> and V<sub>TM</sub> specified at T<sub>J</sub> = 25°C

\*tp = 20ms

New products in green characters

# SNUBBERLESS & LOGIC LEVEL TRIACS

Cont'd

I <sub>T</sub> (RMS) (A)	V <sub>RRM</sub> /V <sub>DRM</sub> (V)	P / N	I <sub>TSM</sub> * (A)	I <sub>GT</sub> max (I → III) (mA)	V <sub>TM</sub> @ I <sub>TM</sub>		dI/dt <sub>c</sub> min (A/ms)	dV/dt min (V/μs)	Package
					(V)	(A)			
8	600	BTB08-600CW	80	35	1.55	11	4.5	400	TO-220AB
8	600	BTB08-600SW	80	10	1.55	11	2.8	40	TO-220AB
8	600	BTB08-600TW	80	5	1.55	11	1.5	20	TO-220AB
8	600	T810-600B	80	10	1.55	11	2.8	40	DPAK
8	600	T810-600H	80	10	1.55	11	2.8	40	IPAK
8	600	T835-600B	80	35	1.55	11	4.5	400	DPAK
8	600	T835-600G	80	35	1.55	11	4.5	400	D <sup>2</sup> PAK
8	600	T835-600H	80	35	1.55	11	4.5	400	IPAK
8	600	T820-600W	100	20	1.4	11	4.5	300	ISOWATT220AB
8	600	T830-600W	100	30	1.4	11	4.5	500	ISOWATT220AB
8	700	T820-700W	100	20	1.4	11	4.5	300	ISOWATT220AB
8	700	T830-700W	100	30	1.4	11	4.5	500	ISOWATT220AB
8	800	BTA08-800BW	80	50	1.55	11	7	1000	TO-220AB Ins.
8	800	BTA08-800CW	80	35	1.55	11	4.5	400	TO-220AB Ins.
8	800	BTA08-800SW	80	10	1.55	11	2.8	40	TO-220AB Ins.
8	800	BTA08-800TW	80	5	1.55	11	1.5	20	TO-220AB Ins.
8	800	BTB08-800BW	80	50	1.55	11	7	1000	TO-220AB
8	800	BTB08-800CW	80	35	1.55	11	4.5	400	TO-220AB
8	800	BTB08-800SW	80	10	1.55	11	2.8	40	TO-220AB
8	800	BTB08-800TW	80	5	1.55	11	1.5	20	TO-220AB
8	800	T810-800B	80	10	1.55	11	2.8	40	DPAK
8	800	T810-800H	80	10	1.55	11	5.4	40	IPAK
8	800	T835-800B	80	35	1.55	11	4.5	400	DPAK
8	800	T835-800G	80	35	1.55	11	4.5	400	D <sup>2</sup> PAK
8	800	T835-800H	80	35	1.55	11	4.5	400	IPAK
8	800	T820-800W	100	20	1.4	11	4.5	300	ISOWATT220AB
8	800	T830-800W	100	30	1.4	11	4.5	500	ISOWATT220AB
10	600	BTA10-600BW	100	50	1.55	14	9	1000	TO-220AB Ins.
10	600	BTA10-600CW	100	35	1.55	14	5.5	500	TO-220AB Ins.
10	600	BTB10-600BW	100	50	1.55	14	9	1000	TO-220AB
10	600	BTB10-600CW	100	35	1.55	14	5.5	500	TO-220AB
10	600	T1020-600W	120	20	1.4	14	5.5	300	ISOWATT220AB
10	600	T1030-600W	120	30	1.4	14	6.5	500	ISOWATT220AB
10	800	BTA10-800BW	100	50	1.55	14	9	1000	TO-220AB Ins.
10	800	BTA10-800CW	100	35	1.55	14	5.5	500	TO-220AB Ins.
10	800	BTB10-800BW	100	50	1.55	14	9	1000	TO-220AB
10	800	BTB10-800CW	100	35	1.55	14	5.5	500	TO-220AB
10	800	T1020-800W	120	20	1.4	14	5.5	300	ISOWATT220AB
10	800	T1030-800W	120	30	1.4	14	6.5	500	ISOWATT220AB
12	600	BTA12-600BW	120	50	1.55	17	12	1000	TO-220AB Ins.
12	600	BTA12-600CW	120	35	1.55	17	6.5	500	TO-220AB Ins.
12	600	BTA12-600SW	120	10	1.55	17	2.9	40	TO-220AB Ins.
12	600	BTB12-600BW	120	50	1.55	17	12	1000	TO-220AB
12	600	BTB12-600CW	120	35	1.55	17	6.5	500	TO-220AB
12	600	BTB12-600SW	120	10	1.55	17	2.9	40	TO-220AB
12	600	T1220-600W	120	20	1.4	17	6.5	300	ISOWATT220AB
12	600	T1230-600W	120	30	1.4	17	8.5	500	ISOWATT220AB
12	600	T1235-600G	120	35	1.55	17	6.5	500	D <sup>2</sup> PAK
12	800	BTA12-800BW	120	50	1.55	17	12	1000	TO-220AB Ins.
12	800	BTA12-800CW	120	35	1.55	17	6.5	500	TO-220AB Ins.
12	800	BTA12-800SW	120	10	1.55	17	2.9	40	TO-220AB Ins.
12	800	BTB12-800BW	120	50	1.55	17	12	1000	TO-220AB
12	800	BTB12-800CW	120	35	1.55	17	6.5	500	TO-220AB
12	800	BTB12-800SW	120	10	1.55	17	2.9	40	TO-220AB
12	800	T1220-800W	160	20	1.4	17	6.5	300	ISOWATT220AB
12	800	T1230-800W	160	30	1.4	17	8.5	500	ISOWATT220AB
12	800	T1235-800G	120	35	1.55	17	6.5	500	D <sup>2</sup> PAK
16	600	BTA16-600BW	160	50	1.55	22.5	14	1000	TO-220AB Ins.
16	600	BTA16-600CW	160	35	1.55	22.5	8.5	500	TO-220AB Ins.

I<sub>TM</sub>, I<sub>GT</sub> and V<sub>TM</sub> specified at T<sub>J</sub> = 25°C

\* tp = 20ms

New products in green characters

# SNUBBERLESS & LOGIC LEVEL TRIACS

Cont'd

I <sub>T</sub> (RMS) (A)	V <sub>RRM</sub> /V <sub>DRM</sub> (V)	P / N	I <sub>TSM</sub> * (A)	I <sub>GT</sub> max (I → III) (mA)	V <sub>TM</sub> @ I <sub>TM</sub>		(dI/dt) <sub>c</sub> min (A/ms)	dV/dt min (V/μs)	Package
					(V)	(A)			
16	600	BTA16-600SW	160	10	1.55	22.5	3	40	TO-220AB Ins.
16	600	BTB16-600BW	160	50	1.55	22.5	14	1000	TO-220AB
16	600	BTB16-600CW	160	35	1.55	22.5	8.5	500	TO-220AB
16	600	BTB16-600SW	160	10	1.55	22.5	3	40	TO-220AB
16	600	T1620-600W	200	20	1.4	22.5	8.5	300	ISOWATT220AB
16	600	T1630-600W	200	30	1.4	22.5	11	500	ISOWATT220AB
16	600	T1635-600G	160	35	1.55	22.5	8.5	500	D <sup>2</sup> PAK
16	800	BTA16-800BW	160	50	1.55	22.5	14	1000	TO-220AB Ins.
16	800	BTA16-800CW	160	35	1.55	22.5	8.5	500	TO-220AB Ins.
16	800	BTA16-800SW	160	10	1.55	22.5	3	40	TO-220AB Ins.
16	800	BTB16-800BW	160	50	1.55	22.5	14	1000	TO-220AB
16	800	BTB16-800CW	160	35	1.55	22.5	8.5	500	TO-220AB
16	800	BTB16-800SW	160	10	1.55	22.5	3	40	TO-220AB
16	800	T1620-800W	200	20	1.4	22.5	8.5	300	ISOWATT220AB
16	800	T1630-800W	200	30	1.4	22.5	11	500	ISOWATT220AB
16	800	T1635-800G	160	35	1.55	22.5	8.5	500	D <sup>2</sup> PAK
25	600	BTA24-600BW	250	50	1.55	35	22	1000	TO-220AB Ins.
25	600	BTA24-600CW	250	35	1.55	35	13	500	TO-220AB Ins.
25	600	BTA25-600BW	250	50	1.55	35	22	1000	RD91
25	600	BTA25-600CW	250	35	1.55	35	13	500	RD91
25	600	BTA26-600BW	250	50	1.55	35	22	1000	TOP3
25	600	BTA26-600CW	250	35	1.55	35	13	500	TOP3
25	600	BTB24-600BW	250	50	1.55	35	22	1000	TO-220AB
25	600	BTB24-600CW	250	35	1.55	35	13	500	TO-220AB
25	600	T2535-600G	250	35	1.55	35	13	500	D <sup>2</sup> PAK
25	800	BTA24-800BW	250	50	1.55	35	22	1000	TO-220AB Ins.
25	800	BTA24-800CW	250	35	1.55	35	13	500	TO-220AB Ins.
25	800	BTA25-800BW	250	50	1.55	35	22	1000	RD91
25	800	BTA25-800CW	250	35	1.55	35	13	500	RD91
25	800	BTA26-800BW	250	50	1.55	35	22	1000	TOP3
25	800	BTA26-800CW	250	35	1.55	35	13	500	TOP3
25	800	BTB24-800BW	250	50	1.55	35	22	1000	TO-220AB
25	800	BTB24-800CW	250	35	1.55	35	13	500	TO-220AB
25	800	T2535-800G	250	35	1.55	35	13	500	D <sup>2</sup> PAK

 I<sub>TSM</sub>, I<sub>GT</sub>, I<sub>H</sub> and V<sub>TM</sub> specified at T<sub>J</sub> = 25°C

 \* t<sub>p</sub> = 20ms

## HIGH TEMPERATURE TRIACS (T<sub>J</sub> max. = 150°C) - SNUBBERLESS

I <sub>T</sub> (RMS) (A)	V <sub>RRM</sub> /V <sub>DRM</sub> (V)	P / N	T <sub>c</sub> (°C)	I <sub>TSM</sub> * (A)	I <sub>GT</sub> max (I → III) (mA)	V <sub>TM</sub> @ I <sub>TM</sub>		(dI/dt) <sub>c</sub> min (A/ms)	R <sub>th(j-c)</sub> max (°C/W)	Package
						(V)	(A)			
12	600	T1235H-600G	135	140	35	1.5	17	5.3	1.2	D <sup>2</sup> PAK
12	600	T1235H-600T	135	140	35	1.5	17	5.3	1.2	TO-220AB
25	600	T2550H-600T	125	250	50	1.5	35	11.1	0.8	TO-220AB

 I<sub>TSM</sub>, I<sub>GT</sub> and V<sub>TM</sub> specified at T<sub>J</sub> = 25°C

 \* t<sub>p</sub> = 20ms

## DIACS

P / N	V <sub>BO</sub>			V <sub>BO</sub> symmetry (V)	I <sub>BO</sub> max (μA)	ΔV (dynamic V <sub>BO</sub> ) (V)	Package
	min (V)	typ (V)	max (V)				
DB3	28	32	36	±3	50	5	DO-35
DB3TG	30	32	34	±2	15	9	DO-35
DB4	35	40	45	±3	50	5	DO-35
SMDB3	28	32	36	±3	10	10	SOT-23

New products in green characters



## IGNITORS FOR INDUSTRIAL APPLICATIONS

### FIRE LIGHTER CIRCUIT: CONTROL CIRCUIT FOR GAS HOBBS, FUEL IGNITION, ELECTRICAL FENCE

Fire Lighter Circuits have been developed for systems with gas ignition like furnaces, boilers, fuel control ignition, gas ranges and barbecues. They are based on spark generation through capacitive discharge mode and provide high pulse and high noise immunity level in a fully integrated solution.

P / N	Voltage Source (V)	V <sub>BO</sub>		Peak Current @ 10μs (A)	Package
		min (V)	max (V)		
FLC01-200B	220V AC	206	233	190	DPAK
<b>FLC01-200H</b>	<b>220V AC</b>	<b>206</b>	<b>233</b>	<b>190</b>	<b>IPAK</b>
FLC10-200B	220V AC	206	233	240	DPAK
<b>FLC10-200H</b>	<b>220V AC</b>	<b>206</b>	<b>233</b>	<b>240</b>	<b>IPAK</b>
FLC21-135A	DC Battery	140	160	90	TO-92

## IGNITORS FOR LIGHTING APPLICATIONS

### EFS: FLUORESCENT TUBE STARTER

Consisting in a driver IC and an ASD power switch, the EFS kit has been developed for fluorescent tube starters. This device has been designed to optimize the ignition sequence and provides in a limited space, smooth and flicker-free starting even at low temperatures, extended life-time for the tube lamp and automatic shutdown in case of tube failure.

ASD	Driver	AC Input Frequency (Hz)	Package		Lamp Power (W)	Temperature range (°C)	V <sub>BO</sub> min
			ASD	Driver			
EFS21-TL5	EFS2A-CD	50	PENTAWATT HV	SO-14	18 to 58	-20 to +851	350 V @ 5mA
EFS21-TL5	EFS2B-CD	50/60	PENTAWATT HV	SO-14	18 to 70	-30 to +85	1350 V @ 5mA

### SENSITIVE GATE SCRs (T<sub>j</sub> max. = 125°C)

I <sub>T</sub> (RMS) (A)	V <sub>RRM</sub> /V <sub>DRM</sub> (V)	P / N	I <sub>TSM</sub> * (A)	I <sub>GT</sub> max (μA)	I <sub>H</sub> max (mA)	V <sub>TM</sub> @ I <sub>TM</sub> (V) (A)		(dv/dt) min @ T <sub>j</sub> (V/μs)	Package
0.8	100	PO130AA	7	1	5	1.25	0.5	25	TO-92
<b>2</b>	<b>400</b>	<b>TN22-1500H</b>	<b>1.5</b>	<b>1500</b>	<b>175</b>	<b>3.1</b>	<b>2</b>	<b>500</b>	<b>IPAK</b>
2	400	TN22-1500B	1.5	1500	175	3.1	2	500	DPAK

I<sub>TSM</sub>, I<sub>GT</sub>, I<sub>H</sub> and V<sub>TM</sub> specified at T<sub>j</sub> = 25°C \* tp = 10ms

### LIC: HIGH INTENSITY DISCHARGE LAMP STARTER

The LIC is the core of the electronic superimposed ignitors for high intensity discharge lamps supplied by magnetic ballast. The main applications are outdoor, street or building lighting fixtures using high pressure Sodium or Metal Halide lamps. The LIC devices provide a high pulse current capability and a low holding current, to secure lamp ignition with multi-pulse striking, while offering high reliability level and space saving as a stand-alone circuit.

P / N	V <sub>BO</sub> min (V)	V <sub>BO</sub> max (V)	Peak pulse current @ 10μs (A)	I <sub>H</sub> min (mA)	dI/dt max (A/μs)	Package
LIC01-215B	215	255	50	50	80	DPAK
<b>LIC01-215H</b>	<b>215</b>	<b>255</b>	<b>50</b>	<b>50</b>	<b>80</b>	<b>IPAK</b>

## ASDs\* FOR INDUSTRIAL APPLICATIONS

### INRUSH CURRENT LIMITATION CIRCUIT

The STIL02 is a circuit combining two unidirectional switches for use in a smart configuration of a primary rectification bridge, mixing diode rectification and SCR. Compared to the traditional inrush current limitation circuits, the SCR bridge configuration using the STIL offers reduced power losses and higher efficiency, reduced size, full operation during a.c. on / off cycles with PFC and absence of hot spots during nominal operation.

V <sub>Dout</sub> / V <sub>Rout</sub> (V)	I <sub>out</sub> (AV) (A)	P / N	I <sub>TSM</sub> * (A)	I <sub>p1+</sub> I <sub>p2</sub> typ (mA)	I <sub>out</sub> (on) (μA)	V <sub>F</sub> @ I <sub>out</sub> (AV) (V) (A)		dV <sub>Dout</sub> /dt min @ T <sub>j</sub> max (V/μs)	Package
<b>700</b>	<b>2</b>	<b>STIL02-PL5</b>	<b>65</b>	<b>20</b>	<b>500</b>	<b>1.1</b>	<b>2</b>	<b>300</b>	<b>PENTAWATT HV2</b>

I<sub>TSM</sub> and I<sub>p1+</sub> I<sub>p2</sub> specified at T<sub>j</sub> = 25°C \* tp = 10ms

**New products in green characters**

▼ APPLICATION SPECIFIC DISCRETES

## CURRENT LIMITED OVERVOLTAGE PROTECTED QUAD DIGITAL TERMINATION

The CLT3-4 is a 3mA quadruple input digital termination device designed for 24V DC automation applications. It achieves the compact front-end of a digital input by minimizing the external component count, so reducing the printed board size and the losses in conduction. The internal current limiting circuit between the input and the output pins is compensated over all the temperature range. The CLT3-4 application is the termination for IEC61131-2 type 1 input and logic interface for EN60947-5-2 proximity sensor in Industrial Automation such as: Programmable Logic Controller, Field bus nodes and Machine tool interface.

V <sub>CC</sub> (V)	V <sub>I</sub> (V)	P/N	I <sub>LIM</sub> min / max (mA)	I <sub>OFF</sub> / V <sub>OFF</sub> (mA / V)	ESD in air (kV)	Surge 1.2 / 50µs (kV)	Package
19 to 35	-30 to +35	CLT3-4BT6	2.1 / 3.7	1.5 / 5	±8	1	TSSOP20

## AC SWITCHES

### ACS AND ACST DEVICES FOR HOME APPLIANCES

The ACS series is a new generation of switches specifically developed for home appliances and industrial processing applications. Thanks to their embedded overvoltage protection and integrated level shifter, they do not require external voltage protection such as MOV, provide high reliability level to safely sustain AC transients (like those defined in IEC61000 standards), have superior performance in noise immunity thanks to ultra high dV/dt and are easy to drive directly from microprocessors. The ACST series embeds the overvoltage protection structure of the ACS and extends the AC Switch family to the 8A and 700V ranges.

I <sub>T</sub> (RMS) (A)	V <sub>RRM</sub> / V <sub>DRM</sub> (V)	P/N	V <sub>CL</sub> @ 1mA Typ(1) (V)	I <sub>GT</sub> max (mA)	V <sub>TM</sub> @ I <sub>TM</sub>		(di / dt) <sub>c</sub> (A / ms)	dV/dt (V / µs)	Package
					(V)	(A)			
0.2	500	ACS102-5T1	600	5	1.1	0.3	0.1	300	SO-8
0.2	500	ACS102-5TA	600	5	1.1	0.3	0.1	300	TO-92
3 x 0.2	500	ACS302-5T3 (2)	600	5	1.2	0.3	0.1	300	SO-20
0.8	500	ACS108-5SA	600	10	1.3	1.1	0.1	500	TO-92
0.8	500	ACS108-5SN	600	10	1.3	1.1	0.1	500	SOT-223
4 x 0.2	500	ACS402-5SB4	600	10	1.1	0.3	0.1	500	DIP-20
1	700	ACS110-7SB2 (2)	1100	10	1.3	1.4	0.5	500	DIP-8
1	700	ACS110-7SN (2)	1100	10	1.3	1.4	0.5	500	SOT-223
2	700	ACS120-7SB (2)	1100	10	1.3	2.8	1	500	DPAK
2	700	ACS120-7SFP (2)	1100	10	1.3	2.8	1	500	TO-220FPAB
2	700	ACS120-7SH (2)	1100	10	1.3	2.8	1	500	IPAK
2	700	ACS120-7ST (2)	1100	10	1.3	2.8	1	500	TO-220AB
4	700	ACST4-7CB	1100	25	1.5	5.6	2.5	500	DPAK
4	700	ACST4-7CFP	1100	25	1.5	5.6	2.5	500	TO-220FPAB
4	700	ACST4-7CH	1100	25	1.5	5.6	2.5	500	IPAK
4	700	ACST4-7SB	1100	10	1.5	5.6	2	200	DPAK
4	700	ACST4-7SFP	1100	10	1.5	5.6	2	200	TO-220FPAB
4	700	ACST4-7SH	1100	10	1.5	5.6	2	200	IPAK
6	700	ACST6-7SFP	1100	10	1.4	2.1	3	200	TO-220FPAB
6	700	ACST6-7SG	1100	10	1.4	2.1	3	200	D <sup>2</sup> PAK
6	700	ACST6-7SR	1100	10	1.4	2.1	3	200	I <sup>2</sup> PAK
6	700	ACST6-7ST	1100	10	1.4	2.1	3	200	TO-220AB
8	800	ACST8-8CFP	1100	30	1.5	11	4.5	500	TO-220FPAB
8	800	ACST8-8CT	1100	30	1.5	11	4.5	500	TO-220AB

 I<sub>GT</sub> and V<sub>TM</sub> specified at T<sub>J</sub> = 25°C

 (1) t<sub>p</sub> = 1 ms

(2) Available in Q3-02

New products in green characters



© STMicroelectronics - June 2002 - Printed in Italy - All rights reserved

The STMicroelectronics corporate logo is a registered trademark of the STMicroelectronics group of companies.

All other names are the property of their respective owners.

ACS, ASD, ISOTOP and SNUBBERLESS are STMicroelectronics trademarks.

**For selected STMicroelectronics sales offices fax:**

 France +33 1 55489569; Germany +49 89 4605454; Italy +39 02 8250449; Japan +81 3 57838216; Singapore +65 64815124;  
 Sweden +46 8 7504950; Switzerland +41 22 9292900; United Kingdom and Eire +44 1628 890391; USA +1 781 861 2678

 Full product information at [www.st.com/thyristors](http://www.st.com/thyristors)