

# Thyristors and AC Switches

## Advanced power switching

Selection guide



June 2007

# Product symbols

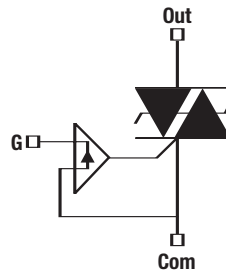
SCR



Triac



ACS



ACST



# SCRs

## Sensitive gate ( $T_j \text{ max} = 125^\circ\text{C}$ )

$I_{T(RMS)}$ (A)	$V_{RRM}/V_{DRM}$ (V)	$I_{TSM}^{(1)(2)}$ (A)	$I_{GT} \text{ max}^{(2)}$ ( $\mu\text{A}$ )	$I_H \text{ max}^{(2)}$ (mA)	$dV/dt \text{ min}$ @ $T_j \text{ max}$ (V/ $\mu\text{s}$ )	Packages		
						SOT-223	SOT-23	TO-92
0.25	200	6	200	5	200		P0102BL	
0.8	400	7	200	5	75	P0102DN		P0102DA
0.8	400	7	25	5	80	P0111DN		P0111DA
0.8	400	7	5	5	75	P0118DN		P0118DA
0.8	400	7	200	5	75			XL0840
0.8	600	7	200	5	75	P0102MN		P0102MA
0.8	600	7	25	5	80	P0111MN		P0111MA
0.8	600	7	5	5	75			P0118MA
0.8	600	9	200	5	25			X00602MA
1.25	600	22.5	200	5	10	X0202MN		X0202MA
1.25	600	22.5	50	5	15	X0205MN		X0205MA
1.25	800	22.5	200	5	10	X0202NN		X0202NA
1.25	800	22.5	50	5	15			X0205NA

$I_{T(RMS)}$ (A)	$V_{RRM}/V_{DRM}$ (V)	$I_{TSM}^{(1)(2)}$ (A)	$I_{GT} \text{ max}^{(2)}$ ( $\mu\text{A}$ )	$I_H \text{ max}^{(2)}$ (mA)	$dV/dt \text{ min}$ @ $T_j \text{ max}$ (V/ $\mu\text{s}$ )	Packages			
						DPAK	IPAK	TO202-3	TO-220AB
4	600	30	200	5	5	TS420-600B	TS420-600H		TS420-600T
4	600	30	200	5	10			X0402MF	
4	600	30	50	5	15			X0405MF	
4	800	30	200	5	10			X0402NF	
4	800	30	50	5	15			X0405NF	
8	600	70	200	5	5	TS820-600B	TS820-600H		TS820-600T
12	600	110	200	5	5	TS1220-600B	TS1220-600H		

## Standard ( $T_j \text{ max} = 125^\circ\text{C}$ )

$I_{T(RMS)}$ (A)	$V_{RRM}/V_{DRM}$ (V)	$I_{TSM}^{(1)(2)}$ (A)	$I_{GT} \text{ max}^{(2)}$ ( $\mu\text{A}$ )	$I_H \text{ max}^{(2)}$ (mA)	$dV/dt \text{ min}$ @ $T_j \text{ max}$ (V/ $\mu\text{s}$ )	Packages			
						DPAK	D <sup>2</sup> PAK	IPAK	TO-220AB
8	600	70	5	25	50	TN805-600B		TN805-600H	
8	600	70	15	40	150	TN815-600B		TN815-600H	
8	600	95	15	30	150				TYN608
8	800	70	5	20	50	TN805-800B			
8	800	70	15	40	150	TN815-800B			
8	800	95	15	30	150				TYN808
8	1000	95	15	30	150				TYN1008
12	600	110	15	40	200	TN1215-600B		TN1215-600H	
12	600	140	15	30	200		TN1215-600G		
12	600	140	15	30	200				TYN612
12	600	140	5	15	40				TYN612T
12	800	110	15	40	200	TN1215-800B			
12	800	140	15	30	200		TN1215-800G		
12	800	140	15	30	200				TYN812
12	800	140	5	15	40				TYN812T

(1) :  $t_p = 10\text{ms}$

(2) :  $I_{TSM}$ ,  $I_{GT}$  and  $I_H$  specified at  $T_j = 25^\circ\text{C}$

MSS : Two SCRs in back-to-back configuration

# SCRs (continued)

## Standard ( $T_j \text{ max} = 125^\circ\text{C}$ ) (continued)

$I_T$ (RMS) (A)	$V_{RRM}/V_{DRM}$ (V)	$I_{TSM}^{(1)(2)}$ (A)	$I_{GT \text{ max}}^{(2)}$ ( $\mu\text{A}$ )	$I_H \text{ max}^{(2)}$ (mA)	$dV/dt \text{ min}$ @ $T_j \text{ max}$ (V/ $\mu\text{s}$ )	Packages			
						DPAK	D <sup>2</sup> PAK	IPAK	TO-220AB
12	1000	140	15	30	200				TYN1012
12	1000	140	5	15	40				TYN1012T
16	600	190	25	40	500		TN1625-600G		TYN616
16	800	190	25	40	500		TN1625-800G		TYN816
16	1000	190	25	40	500		TN1625-1000G		
25	600	300	40	50	500		TN2540-600G		TYN625
25	800	300	40	50	500		TN2540-800G		TYN825
25	1000	300	40	50	500		TN2540-1000G		
40	600	460	35	75	1000		TN4035-600G		TYN640
40	800	460	35	75	1000				TYN840

$I_T$ (RMS) (A)	$V_{RRM}/V_{DRM}$ (V)	$I_{TSM}^{(1)(2)}$ (A)	$I_{GT \text{ max}}^{(2)}$ ( $\mu\text{A}$ )	$I_H \text{ max}^{(2)}$ (mA)	$dV/dt \text{ min}$ @ $T_j \text{ max}$ (V/ $\mu\text{s}$ )	Packages	
						RD91	TOP3 Ins.
30	600	400	50	75	500		BTW68-600
30	800	400	50	75	500		BTW68-800
30	1000	400	50	75	250		BTW68-1000
50	600	580	80	150	500	BTW67-600	BTW69-600
50	800	580	80	150	500	BTW67-800	BTW69-800
50	1200	580	80	150	250	BTW67-1200	BTW69-1200

## Modules

$I_T$ (RMS) (A)	$V_{RRM}/V_{DRM}$ (V)	$I_{TSM}^{(1)(2)}$ (A)	$I_{GT \text{ max}}^{(2)}$ ( $\mu\text{A}$ )	$I_H \text{ max}^{(2)}$ (mA)	$dV/dt \text{ min}$ @ $T_j \text{ max}$ (V/ $\mu\text{s}$ )	Packages
						ISOTOP
55	1200	400 <sup>(1)</sup>	50	80	1000	MSS40-1200
70	800	400 <sup>(1)</sup>	50	80	1000	MSS50-800
70	1200	400 <sup>(1)</sup>	50	80	1000	MSS50-1200

(1) :  $t_p = 10\text{ms}$

(2) :  $I_{TSM}$ ,  $I_{GT}$  and  $I_H$  specified at  $T_j = 25^\circ\text{C}$

MSS : Two SCRs in back-to-back configuration

## Standard

I <sub>T</sub> (RMS) (A)	V <sub>RRM</sub> / V <sub>DRM</sub> (V)	I <sub>TSM</sub> <sup>(1)(2)</sup> (A)	I <sub>GT</sub> max <sup>(2)</sup> (I > III) (mA)	I <sub>GT</sub> max <sup>(2)</sup> (IV) (mA)	(dV/dt) <sub>c</sub> min (V/μs)	dV/dt min (V/μs)	Packages		
							SOT-223	T0-92	T0202-3
0.8	600	9	5	7	1.5	10		Z00607MA	
1	600	8	3	5	0.5	10	Z0103MN	Z0103MA	
1	600	8	5	7	1	20	Z0107MN	Z0107MA	
1	600	8	10	10	2	50	Z0109MN	Z0109MA	
1	600	8	25	25	5	100	Z0110MN	Z0110MA	
1	800	8	3	5	0.5	10		Z0103NA	
1	800	8	5	7	1	20	Z0107NN	Z0107NA	
1	800	8	10	10	2	50	Z0109NN	Z0109NA	
1	800	8	25	25	5	100		Z0110NA	
4	600	20	3	3	0.5	100			Z0402MF
4	600	20	5	5	1	20			Z0405MF
4	600	20	10	10	2	100			Z0409MF
4	600	20	25	25	5	200			Z0410MF
4	800	20	5	5	1	20			Z0405NF
4	800	20	10	10	2	100			Z0409NF
4	800	20	25	25	5	200			Z0410NF

I <sub>T</sub> (RMS) (A)	V <sub>RRM</sub> / V <sub>DRM</sub> (V)	I <sub>TSM</sub> <sup>(1)(2)</sup> (A)	I <sub>GT</sub> max <sup>(2)</sup> (I > III) (mA)	I <sub>GT</sub> max <sup>(2)</sup> (IV) (mA)	(dV/dt) <sub>c</sub> min (V/μs)	dV/dt min (V/μs)	Packages	
							T0-220AB	T0-220AB Ins.
4	600	35	10	25	10	75	BTB04-600SL	
6	600	60	50	100	10	400	BTB06-600BRG	BTA06-600BRG
6	600	60	25	50	5	200	BTB06-600CRG	BTA06-600CRG
6	800	60	50	100	10	400	BTB06-800BRG	BTA06-800BRG
6	800	60	25	50	5	200	BTB06-800CRG	BTA06-800CRG
8	600	80	50	100	10	400	BTB08-600BRG	BTA08-600BRG
8	600	80	25	50	5	200	BTB08-600CRG	BTA08-600CRG
8	800	80	50	100	10	400	BTB08-800BRG	BTA08-800BRG
8	800	80	25	50	5	200	BTB08-800CRG	BTA08-800CRG
10	600	100	50	100	10	400	BTB10-600BRG	BTA10-600BRG
10	600	100	25	50	5	200	BTB10-600CRG	BTA10-600CRG
10	800	100	50	100	10	400	BTB10-800BRG	BTA10-800BRG
10	800	100	25	50	5	200	BTB10-800CRG	BTA10-800CRG
12	600	120	50	100	10	400	BTB12-600BRG	BTA12-600BRG
12	600	120	25	50	5	200	BTB12-600CRG	BTA12-600CRG
12	800	120	50	100	10	400	BTB12-800BRG	BTA12-800BRG
12	800	120	25	50	5	200	BTB12-800CRG	BTA12-800CRG
16	600	160	50	100	10	400	BTB16-600BRG	BTA16-600BRG
16	600	160	25	50	5	200	BTB16-600CRG	BTA16-600CRG
16	800	160	50	100	10	400	BTB16-800BRG	BTA16-800BRG
16	800	160	25	50	5	200	BTB16-800CRG	BTA16-800CRG

I <sub>T</sub> (RMS) (A)	V <sub>RRM</sub> / V <sub>DRM</sub> (V)	I <sub>TSM</sub> <sup>(1)(2)</sup> (A)	I <sub>GT</sub> max <sup>(2)</sup> (I > III) (mA)	I <sub>GT</sub> max <sup>(2)</sup> (IV) (mA)	(dV/dt) <sub>c</sub> min (V/μs)	dV/dt min (V/μs)	Packages			
							RD91	TOP3	TOP31	T0-220AB
25	600	250	50	100	10	500	BTA25-600B	BTB26-600BRG	BTA26-600BRG	BTB24-600BRG
25	800	250	50	100	10	500	BTA25-800B		BTA26-800BRG	BTB24-800BRG
40	600	400	50	100	10	500	BTA40-600B	BTB41-600BRG	BTA41-600BRG	
40	800	400	50	100	10	500	BTA40-800B	BTB41-800BRG	BTA41-800BRG	

(1): t<sub>p</sub> = 20ms

(2): I<sub>TSM</sub>, I<sub>GT</sub> and I<sub>H</sub> specified at T<sub>j</sub> = 25°C

# Triacs (continued)

## Snubberless™ and logic level

I <sub>T(RMS)</sub> (A)	V <sub>RRM</sub> / V <sub>DRM</sub> (V)	I <sub>TSM</sub> <sup>(1)(2)</sup> (A)	I <sub>GT</sub> max <sup>(2)</sup> (I > III) (mA)	(di/dt) <sub>c</sub> min (A/ms)	dV/dt min (V/μs)	Packages					
						DPAK	D <sup>2</sup> PAK	IPAK	ISOWATT220AB	TO-220AB	TO-220AB Ins.
4	600	30	5	0.9	20	T405-600B		T405-600H	T405-600W	T405-600T	
4	600	30	10	2	40	T410-600B		T410-600H	T410-600W	T410-600T	
4	600	30	35	2.5	400	T435-600B		T435-600H	T435-600W	T435-600T	
4	800	30	5	0.9	20	T405-800B		T405-800H	T405-800W	T405-800T	
4	800	30	10	2	40	T410-800B		T410-800H	T410-800W	T410-800T	
4	800	30	35	2.5	400	T435-800B		T435-800H	T435-800W	T435-800T	
6	600	60	50	5.3	1000					BTB06-600BWRG	BTA06-600BWRG
6	600	60	35	3.5	400					BTB06-600CWRG	BTA06-600CWRG
6	600	60	10	2.4	40					BTB06-600SWRG	BTA06-600SWRG
6	600	60	5	1.2	20					BTB06-600TWRG	BTA06-600TWRG
6	600	80	20	3.3	300						T620-600W
6	600	80	30	4.5	500						T630-600W
8	600	80	50	7	1000					BTB08-600BWRG	BTA08-600BWRG
8	600	80	35	4.5	400					BTB08-600CWRG	BTA08-600CWRG
8	600	80	10	2.8	40					BTB08-600SWRG	BTA08-600SWRG
8	600	80	5	1.5	20					BTB08-600TWRG	BTA08-600TWRG
8	600	80	10	2.5	40	T810-600B					
8	600	80	35	4.5	400	T835-600B					
8	600	80	35	4.5	400		T835-600G				
8	800	80	50	7	1000					BTB08-800BWRG	BTA08-800BWRG
8	800	80	35	4.5	400					BTB08-800CWRG	BTA08-800CWRG
8	800	80	10	2.8	40					BTB08-800SWRG	BTA08-800SWRG
8	800	80	5	1.5	20					BTB08-800TWRG	BTA08-800TWRG
8	800	80	10	2.8	40	T810-800B					
8	800	80	35	4.5	400	T835-800B					
8	800	100	20	4.5	300				T820-800W		
8	800	100	30	4.5	500				T830-800W		
10	600	100	50	9	1000					BTB10-600BWRG	BTA10-600BWRG
10	600	100	35	5.5	500					BTB10-600CWRG	BTA10-600CWRG
10	800	100	50	9	1000					BTB10-800BWRG	BTA10-800BWRG
10	800	100	35	5.5	500					BTB10-800CWRG	BTA10-800CWRG
12	600	120	50	12	1000					BTB12-600BWRG	BTA12-600BWRG
12	600	120	35	6.5	500					BTB12-600CWRG	BTA12-600CWRG
12	600	120	10	2.9	40					BTB12-600SWRG	BTA12-600SWRG
12	600	120	35	6.5	500		T1235-600G				
12	800	120	50	12	1000					BTB12-800BWRG	BTA12-800BWRG
12	800	120	35	6.5	500					BTB12-800CWRG	BTA12-800CWRG
12	800	120	10	2.9	40					BTB12-800SWRG	BTA12-800SWRG
12	800	120	35	6.5	500		T1235-800G				
16	600	160	50	14	1000					BTB16-600BWRG	BTA16-600BWRG
16	600	160	35	8.5	500					BTB16-600CWRG	BTA16-600CWRG
16	600	160	10	3	40					BTB16-600SWRG	BTA16-600SWRG
16	600	200	20	8.5	300				T1620-600W		
16	600	200	30	11	500				T1630-600W		
16	600	160	35	8.5	500		T1635-600G				
16	800	160	50	14	1000					BTB16-800BWRG	BTA16-800BWRG
16	800	160	35	8.5	500					BTB16-800CWRG	BTA16-800CWRG

(1): t<sub>p</sub> = 20ms

(2): I<sub>TSM</sub>, I<sub>GT</sub> and I<sub>H</sub> specified at T<sub>j</sub> = 25°C

# Triacs (continued)

## Snubberless and logic level (continued)

$I_T$ (RMS) (A)	$V_{RRM}/V_{DRM}$ (V)	$I_{TSM}^{(1)(2)}$ (A)	$I_{GT} \max^{(2)}$ (I > III) (mA)	$(di/dt)c_{min}$ (A/ms)	$dV/dt_{min}$ (V/ $\mu$ s)	Packages				
						D <sup>2</sup> PAK	RD91	TOP31	TO-220AB	TO-220AB ins.
25	600	250	50	22	1000				BTB24-600BWRG	BTA24-600BWRG
25	600	250	35	13	500				BTB24-600CWRG	BTA24-600CWRG
25	600	250	50	22	1000		BTA25-600BW			
25	600	250	35	13	500		BTA25-600CW			
25	600	250	50	22	1000			BTA26-600BWRG		
25	600	250	35	13	500	T2535-600G				
25	800	250	50	22	1000				BTB24-800BWRG	BTA24-800BWRG
25	800	250	35	13	500				BTB24-800CWRG	BTA24-800CWRG
25	800	250	50	22	1000		BTA25-800BW			
25	800	250	50	22	1000			BTA26-800BWRG		
25	800	250	35	13	500			BTA26-800CWRG		
25	800	250	35	13	500	T2535-800G				

## High temperature snubberless

$I_T$ (RMS) (A)	$V_{RRM}/V_{DRM}$ (V)	$T_c$ (°C)	$I_{TSM}^{(1)(2)}$ (A)	$I_{GT} \max^{(2)}$ (I > III) (mA)	$(di/dt)c_{min}^{(3)}$ (A/ms)	$R_{th(j-c)} \max$ (°C/w)	Packages		
							D <sup>2</sup> PAK	TO-220AB	TO-220AB ins.
8	600	135	80	35	11	1.85	T835H-6G	T835H-6T	T835H-6I
8	600	135	80	50	14	1.85	T850H-6G	T850H-6T	T850H-6I
10	600	135	100	35	13	1.45	T1035H-6G	T1035H-6T	T1035H-6I
10	600	135	100	50	18	1.45	T1050H-6G	T1050H-6T	T1050H-6I
12	600	130	120	35	16	1.4	T1235H-6G	T1235H-6T	T1235H-6I
12	600	130	120	50	21	1.4	T1250H-6G	T1250H-6T	T1250H-6I
16	600	130	160	35	21	1.15	T1635H-6G	T1635H-6T	T1635H-6I
16	600	130	160	50	28	1.15	T1650H-6G	T1650H-6T	T1650H-6I
20	600	130	200	35	27	1		T2035H-6T	
20	600	130	200	50	36	1		T2050H-6T	

# DIACS

## Trigger diode

$V_{BO}$			$V_{BO}$ symmetry (V)	$I_{BO}$ max ( $\mu$ A)	$\Delta V$ (dynamic $V_{BO}$ ) (V)	Packages	
Min (V)	Typ (V)	Max (V)				D0-35	SOT-23
28	32	36	$\pm 3$	50	5	DB3	
30	32	34	$\pm 2$	15	9	DB3TG	
35	40	45	$\pm 3$	50	5	DB4	
28	32	36	$\pm 3$	10	10		SMDB3

(1):  $t_p = 20$ ms

(2):  $I_{TSM}$  and  $I_{GT}$  specified at  $T_j = 25^\circ\text{C}$

(3): Without snubber,  $T_j = 150^\circ\text{C}$

■ : New products

# ASDs (application specific devices)

## Ignitors for industrial applications

### Fire lighter circuit: control circuit for gas hobs, 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.

Voltage source (V)	V <sub>BO</sub>		Peak current @ 10µs (A)	Packages		
	Min (V)	Max (V)		DPAK	IPAK	T0-92
220AC	206	233	190	FLC01-200B-TR	FLC01-200H	
220AC	206	233	240	FLC10-200B	FLC10-200H	
DC battery	140	160	90			FLC21-135A

## Ignitors for lighting applications

### Sensitive gate SCRs (T<sub>j</sub> max. = 125°C) for fluorescent tube starter

The TN22/P01 combination is specifically intended for use in fluorescent tube ignition starters. Thanks to the high voltage capability of the TN22 coupled with the very sensitive P01 pilot SCR, this circuit kit provides high energy striking capabilities with low triggering power.

I <sub>T</sub> (RMS) (A)	V <sub>RRM</sub> /V <sub>DRM</sub> (V)	I <sub>TSM</sub> <sup>(1)(2)</sup> (A)	I <sub>GT</sub> max <sup>(2)</sup> (µA)	I <sub>H</sub> max <sup>(2)</sup> (mA)	dV/dt min @ T <sub>j</sub> max (V/µs)	Packages				
						T0-92	DPAK	IPAK	FPAK	T0-220AB
0.8	100	7	1	5	25	P0130AA				
2	400	1.5	1500	175	500		TN22-1500B	TN22-1500H	TN22-1500R	TN22-1500T

### LIC: High intensity discharge lamp starter

The LIC is the core of the electronic 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 standalone circuit.

V <sub>BO</sub>		Peak current @ 10µs (A)	I <sub>H</sub> min (mA)	dl/dt max (A/µs)	Packages	
Min (V)	Max (V)				IPAK	T0-92
195	230	50	50			LIC01-195H
215	255	50	50	LIC01-215B-TR		LIC01-215H

(1): t<sub>p</sub> = 10ms

(2): I<sub>TSM</sub>, I<sub>GT</sub> and I<sub>H</sub> specified at T<sub>j</sub> = 25° C



# ASDs (application specific devices continued)

## Industrial applications

### Inrush current limitation circuit

The STIL is a circuit combining two unidirectional switches for use in a controlled bridge primary rectification configuration. 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 PCB hot spots during nominal operation.

$I_{Dout} / V_{Rout}$ (A)	$I_{out}(AV)$ (A)	$I_{TSM}^*$ (A)	$I_{p1+I_{p2}}$ typ (mA)	$I_{Rout} (on)$ ( $\mu A$ )	$V_f @ I_{out} (AV)$		$dV_{Dout}/dt \min$ @ $T_j \max$	Packages	
					(V)	(A)		PENTAWATT	TO-220 5L
700	4	65	20	300	1.2	4	500	STIL04-P5	
700	6		20	300	1.1	6	500	STIL06-T5	
700	8		20	300	1	8	500	STIL08-T5	

### Power control circuit

The STCC is a control circuit that fully embeds the monitoring and driving functions required for power and safety management in ovens, air conditioners, refrigerators and washers.

$V_{IN}$		V supply typ (V)	Temp ( $^{\circ}C$ )	Functions			Input interface	Packages	
Min (V)	Max (V)			ZVS	Driver	Security		DIP-16	DIP-20
7	27	5	-10 to 85	Yes	2 relays 1 buzzer	Door close Reset		STCC02	
9	18	5	-20 to 85	Yes	4 relays 1 buzzer	Reset	Speed sensor		STCC05

### 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 CLT3-4 application is the termination for IEC 61131-2 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.

$V_{CC}$ (V)	$V_I$ (V)	$I_{LIM} \min/\max$ (mA)	$I_{OFF}/V_{OFF}$ (mA/V)	ESD in air (kV)	Surge 1.2/50 $\mu s$ (kV)	Packages
19 to 35	-30 to 35	2.1 / 3.7	1.5 / 5	$\pm 8$	1	TSS0P20 CLT3-4BT6

### Dual current limited overvoltage protected digital termination

The PCLT-2A is a dual sensor termination device to be included in the design of the front-end of a 24 V DC digital input module in factory automation. Its flexibility will allow designers to develop a large variety of input types in isolated and un-isolated versions. The current limiters are programmable from 2.5mA to 7.5mA typical. With its robust protection and its current limiter, it is a low-loss EMI-proof solution for highly integrated module interfacing with proximity detectors.

$V_{CC}$ (V)	$V_I$ (V)	$I_{LIM} \min/\max$ (mA)	$I_{OFF}/V_{OFF}$ (mA/V)	ESD in air (kV)	Surge 1.2/50 $\mu s$ (kV)	Packages
19 to 35	-30 to 35	6.1/8.8/2.8/4.3	2/5	$\pm 15$	0.5/1	TSS0P20 (exposed pad) PCLT-2AT4

(1):  $t_p = 10ms$

■ : New products

# 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 integrated overvoltage protection and level shifter, no MOV protection is needed, provide safety such as defined in IEC61000 standards, and are easy to drive directly from microprocessors. The ACST series keeps the overvoltage protection structure of the ACS with standard gate sensitivity.

$I_{T(RMS)}$ (A)	$V_{RRM}/V_{DRM}$ (V)	$V_{CL}$ @ 1mA typ <sup>(2)</sup> (V)	$I_{GT}$ max <sup>(4)</sup> (mA)	(di/dt)c @ $T_J=125^\circ\text{C}$ (A/ms)	dV/dt @ $T_J=125^\circ\text{C}$ (V/ $\mu\text{s}$ )
3 x 0.2	500	600	5	0.15 <sup>(3)</sup>	300 <sup>(3)</sup>
4 x 0.2	500	600	10	0.3 <sup>(3)</sup>	500 <sup>(3)</sup>
0.2	600	700 <sup>(2)</sup>	5	0.15	300
0.8	600	700 <sup>(2)</sup>	10	0.3	500
1	700	1100	10	0.5	500
2	700	1100	10	1	500

$I_{T(RMS)}$ (A)	$V_{RRM}/V_{DRM}$ (V)	$V_{CL}$ @ 1mA typ <sup>(2)</sup> (A)	$I_{GT}$ max <sup>(4)</sup> (mA)	(di/dt)c @ $T_J=125^\circ\text{C}$ (A/ms)	dV/dt @ $T_J=125^\circ\text{C}$ (V/ $\mu\text{s}$ )
2	800	850	10	0.5	500
4	700	1100	25	2.5	500
4	700	1100	10	2	200
6	700	1100	10	3	200
8	800	1100	30	4.5	500
10	700	850	10	5	300
10	700	850	35	12	1000
12	700	850	10	5	300
12	700	850	35	12	1000

1) :  $t_p = 1\text{ms}$

(2): Minimum value

(3):  $T_J = 110^\circ\text{C}$

(4):  $I_{GT}$  specified at  $T_J = 25^\circ\text{C}$

■ : New products

Packages								
DIP-8	DIP-20	DPAK	SO-8	SO-20	SOT-223	TO-220AB	TO-220FPAB	TO-92
				ACS302-5S3				
	ACS402-5SB4							
			ACS102-6S1					ACS102-6SA
					ACS108-6SN			ACS108-6SA
ACS110-7SB2					ACS110-7SN			
		ACS120-7SB				ACS120-7ST	ACS120-7SFP	

Packages					
DPAK	D <sup>2</sup> PAK	IPAK	FPAK	TO-220AB	TO-220FPAB
ACST2-8SB					ACST2-8SFP
ACST4-7CB		ACST4-7CH			ACST4-7CFP
ACST4-7SB		ACST4-7SH			ACST4-7SFP
	ACST6-7SG		ACST6-7SR	ACST6-7ST	ACST6-7SFP
	ACST8-8CG			ACST8-8CT	ACST8-8CFP
				ACST10-7ST	ACST10-7SFP
				ACST10-7CT	ACST10-7CFP
				ACST12-7ST	ACST12-7SFP
				ACST12-7CT	ACST12-7CFP



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