

# SPECIFIC TRANSIENT SUPPRESSORS

## AUTOMOTIVE TRANSIENT SUPPRESSORS IGNITION PROTECTION

Type	$I_{RM}$ @ $V_{RM}$ max		$V_{BR}^*$ (V) @ $T_j = 25^\circ\text{C}$		$V_{BR}$ (V) @ $T_j = 120^\circ\text{C}$		$I_R$ (mA)	$\alpha T$ typ. ( $10^{-4}/^\circ\text{C}$ )	$I_{ZM}$ (mA)	Package
	( $\mu\text{A}$ )	(V)	min	max	min	max				
PL 360 D	0.35	270	330	370	358	416	2	11	3.5	F126 PLASTIC

\* Pulse test  $t_p \leq 50 \text{ ms}$   $\delta < 2\%$

## DECENTRALIZED PROTECTION

Type	$I_{RM}$ @ $V_{RM}$ max			$V_{BR}^*$ @ $T_c = 25^\circ\text{C}$ LOAD DUMP			$V_{CL}$ @ $I_{PP}$ $T_c = 25^\circ\text{C}$		$\alpha T$ max ( $10^{-4}/^\circ\text{C}$ )	C Typ $V_R = 0\text{V}$ $F = 1\text{MHz}$ (nF)	Package
	$T_c = 25^\circ\text{C}$ ( $\mu\text{A}$ )	$T_c = 85^\circ\text{C}$ ( $\mu\text{A}$ )	(V)	min (V)	max (V)	(mA)	max (V)	(A)			
<a href="#">LDP24AS</a>	50	300	24	25	32	1	38	40	9.6	8	AG SOP10 (PowerSO-10) TO-220AB (Plastic) TO-220AB SOP10 (PowerSO-10)
▲ <a href="#">LDP24M</a>	50	300	24	25	32	1	38	30		8	
<a href="#">RBO08-40T</a>	10	100	20	24	32	1	40	37.5†		2	
<a href="#">RBO40-40T</a>	10	100	20	24	32	1	40	20		7	
▲ <a href="#">RBO40-40M</a>	10	100	20	24	32	1	40	20		8	

▲ New Product.

\* Pulse test  $t_p \leq 50 \text{ ms}$   $\delta < 2\%$

† T = 1ms

Use "RL" suffix for tape and reel packaging.



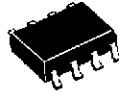
CB429



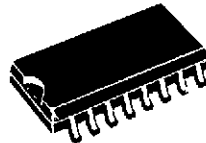
SMB



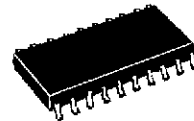
SMC



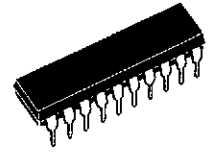
SO8



SO16



SO20



DIL20

## COMPUTER TRANSIENT SUPPRESSORS

### 3V & 5V & 12V SUPPLY PROTECTION

Type	$I_{RM}$ @ $V_{RM}$ max		$V_{BR}^*$ @ $I_R$ min		$V_{CL}$ @ $I_{PP}$ 1 ms expo max		$V_{CL}$ @ $I_{PP}$ 1 ms expo max		$V_{CL}$ @ $I_{PP}$ 1 ms expo max		$\alpha T$ max	Package
Unidirectional	( $\mu A$ )	(V)	(V)	(mA)	(V)	(A)	(V)	(A)	(V)	(A)	( $10^{-4}/^{\circ}C$ )	

1.5 KW/1 ms expo.

 $I_{FSM} = 250 A - 10 ms$ 

1N 5908	300	5	6	1	7.6	30	8.0	60	8.5	120	5.7	CB429 PLASTIC
<a href="#">SM5908</a>	300	5	6	1	7.6	30	8.0	60	8.5	120	5.7	SMC PLASTIC

600W @ 1 ms

 $I_{FSM} = 50 A - 10 ms$ 

<a href="#">SMLVT3V3</a>	200	3.3	4.1	1	7.3	50	7.3	50	10.3	200	—	SMB
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\* Pulse test  $t_p \leq 50 ms$   $\delta < 2\%$ .

For axial use "RL" suffix for tape and reel packaging.

For SOD15, standard packaging is in film.

Type	Max ratings	$I_{RM}$ @ $V_{RM}$  max		$V_{BR}^*$ @ $I_R$  min		$V_{CL}$ @ $I_{PP}$  8-20 $\mu s$ expo max		Package
	$I_{PP}$ 8-20 $\mu s$ (2)							
Dual								
	(A)	( $\mu A$ )	(V)	(V)	(mA)	(V)	(A)	
<a href="#">DDP6V8</a>	12	5	5 and 12	6.8 and 13.6	1	10 and 20	3	SO8

## RCD NETWORK FOR BUS TERMINATION

Type	R		C		D					Package
					$I_R$ @ $V_{RRM} = 7.5\text{ V}$				$C_d$ @ $V_{bias} = 0V$	
					$V_F$					
	@ 25°C	@ 70°C	@ 1mA	@ 16mA						
	min	max	min	max	max	max	max	max	max	
$\Omega$	$\Omega$	pF	pF	$\mu A$	$\mu A$	V	V	pF		
<a href="#">RCD16-47B6</a>	42	52	29	37	1	10	0.5	1	8	SSOP20

## SPECIFIC TRANSIENT SUPPRESSORS

### COMPUTER TRANSIENT SUPPRESSORS (Cont'd)

#### TRANSIL ARRAYS FOR DATA LINE INTERFACE PROTECTION PROTECTION AGAINST ELECTRICAL OVERSTRESS (EOS)

Function	Type	Max ratings	I <sub>RM</sub> @ V <sub>RM</sub>		V <sub>BR</sub> * @ I <sub>R</sub>		V <sub>CL</sub> @ I <sub>PP</sub>		Package
		I <sub>PP</sub> 8-20 μs (2)							
		(A)	(μA)	(V)	(V)	(mA)	(V)	(A)	
4 Bidirectional Transils	<a href="#">ITA6V5B1</a> (1)	40	50	5	6.5	1	10	10	SO8 PLASTIC
	<a href="#">ITA10B1</a> (1)	40	10	8	10	1	15	10	
	<a href="#">ITA18B1</a> (1)	40	4	15	18	1	25	10	
	<a href="#">ITA25B1</a> (1)	40	4	24	25	1	33	10	
8 Bidirectional Transils	<a href="#">ITA6V5B3</a>	40	50	5	6.5	1	9.5	10	SO20 PLASTIC
	<a href="#">ITA10B3</a> (1)	40	10	8	10	1	13	10	
	<a href="#">ITA18B3</a>	40	4	15	18	1	23	10	
	<a href="#">ITA25B3</a> (1)	40	4	24	25	1	31	10	
6 Unidirectional Transils	<a href="#">ITA6V1U1</a>	40	50	5	6.1	1	10	10	SO8 PLASTIC

\* Pulse test  $t_p \leq 50$  ms  $\delta < 2\%$ .

(1) When used on positive & negative data line signal (+/- V<sub>IN</sub>), V<sub>BR</sub> must be greater than 2 x +/- V<sub>IN</sub>.

(2) MIL STD 883C – Method 3015-2.

Standard packaging in tube.

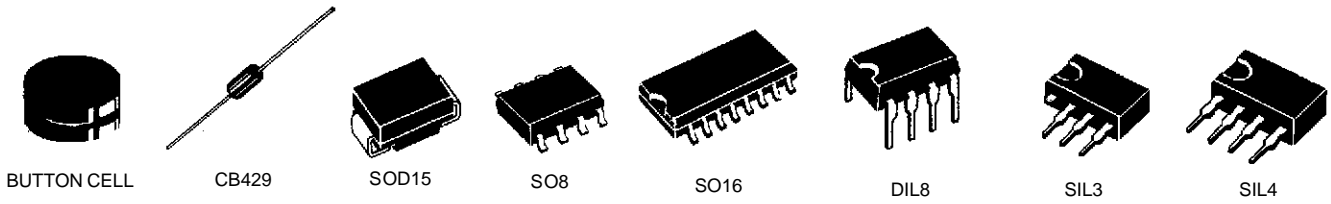
#### TRANSIL ARRAYS FOR DATA LINE INTERFACE PROTECTION PROTECTION AGAINST ELECTROSTATIC DISCHARGE (ESD)

Function	Type	I <sub>RM</sub> @ V <sub>RM</sub>		V <sub>BR</sub> @ I <sub>R</sub>			R <sub>d</sub>	C1 @ Ø V	C2 @ V <sub>RM</sub>	Package
		(μA)	(V)	(V)	(V)	(mA)	(Ω)	(pF)	(pF)	
6 Bidirectional Transils	<a href="#">ESDA25B1</a>	2	24	25	30	1	1.5	15	9	SO8 PLASTIC
18 Bidirectional Transils	<a href="#">ESDA25DB3</a>	2	24	25	30	1	0.5	50	30	SO20 PLASTIC
6 Unidirectional Transils	<a href="#">ESDA6V1U1</a>	2	5	6.1	7.2	1	0.5	100	50	SO8 PLASTIC
18 Unidirectional Transils	<a href="#">ESDA6V1S3</a>	2	5	6.1	7.2	1	0.5	120	60	SO20 PLASTIC
▲ 18 Unidirectional Transils	<a href="#">ESDA6V1S6</a>	2	5	6.1	7.2	1	0.5	120	60	SSOP20

### HIGH SPEED LINES PROTECTION

Function	Type	V <sub>RRM</sub>	I <sub>PP</sub> T <sub>a</sub> = 25°C 8/20μs	P <sub>tot</sub> T <sub>a</sub> = 70°C	I <sub>R</sub> @ V <sub>R</sub> = 15V max T <sub>a</sub> = 25°C		V <sub>F</sub> @ I <sub>F</sub> max		V <sub>ip</sub> @ I <sub>PP</sub> 8/20μs		Package
		(V)	(A)	(W)	(μA)	(μA)	(V)	(mA)	(V)	(A)	
8 diodes	<a href="#">DA108S1</a>	18	12	0.73	2		1.2	50	9	12	SO8
12 diodes	<a href="#">DA112S1</a>	18	12	0.73	2		1.2	50	9	12	SO8

▲ New Products



## TELECOM TRANSIENT SUPPRESSORS

### TERMINAL PROTECTION

Type	$I_{RM} @ V_{RM}$		$V_{BR} @ I_R$ (1)		$V_{BO} @ I_{BO}$ (1)			$I_H$	$V_T$ $I_T=1A$	Package
	max		min		max			min	typ	
	( $\mu A$ )	(V)	(V)	(mA)	(V)	min	max	(mA)	(V)	
<a href="#">L3100B</a>	6 40	60 250	265	1	350	200	500	280	2	DIL8 PLASTIC
<a href="#">L3100B1</a>	6 40	60 250	255	1	350	200	500	210	2	
<a href="#">TPP25011</a>	6	60	250	1	340	15	200	180	2.5	SO8 PLASTIC
<a href="#">TPP25012</a>	6	60	250	1	340	15	200	180	2.5	DIL8 PLASTIC
TSI120B5	1 5	50 120	—	—	180	50	400	150	3	SO16 PLASTIC
TSI150B5	1 5	50 150	—	—	230	50	400	150	3	SO16 PLASTIC
TSI180B5	1 5	50 180	—	—	250	50	400	150	3	SO16 PLASTIC
TSI200B5	1 5	50 200	—	—	290	50	400	150	3	SO16 PLASTIC
TSI270B5	1 5	50 270	—	—	380	50	400	150	3	SO16 PLASTIC
TSI62B5	1 5	50 62	—	—	90	50	400	150	3	SO16 PLASTIC

(1) Without any gate reference - Gate open.  
 Standard packaging in tube.

## SPECIFIC TRANSIENT SUPPRESSORS

## RING RELAY PROTECTION

Type	$I_{RM}$ @ $V_{RM}$		$V_{BR}$ @ $I_R$ (1)		$V_{BO}$ @ $I_{BO}$			$I_{PP}$ (1)	$I_H$	Package
	max		max		max			(V)	min	
	( $\mu A$ )	(V)	(V)	(mA)	(V)	min	max	(V)	(mA)	
<a href="#">THBT15011D</a>	5	135	150	1	210	50	400	30	150	SO8
<a href="#">THBT20011DA</a>	5	180	200	1	290	—	400	30	150	
<a href="#">THBT27011</a>	5	240	270	1	380	50	400	30	150	
<a href="#">THBT15012D</a>	5	135	150	1	210	50	400	30	150	DIL8
<a href="#">THBT20012DA</a>	5	180	200	1	290	—	400	30	150	
<a href="#">THBT27012</a>	5	240	270	1	380	50	400	30	150	
<a href="#">THBT200S</a>	10	180	200	1	290	150	800	75	150	SIL3
<a href="#">THBT200SD</a>	5	180	200	1	290	50	400	75	150	

(1) At 10-1000 $\mu s$ .

For SO8, DIL8 and SIL3 standard packaging is in tube.

For SOD15 standard packaging is in film.

## SLIC PROTECTION - FIXED BREAKDOWN VOLTAGE

Type	$I_{RM}$ @ $V_{RM}$		$V_{BR}$ @ $I_R$		$V_{BO}$ @ $I_{BO}$			$I_{PP}$ (2)	$I_H$	Package
	max		min		max			max	min	
	( $\mu A$ )	(V)	(V)	(mA)	(V)	min	max	(A)	(mA)	
<a href="#">THDT6511</a>	10	56	65	1	85	50	500	30	150	SO8
<a href="#">THDT6512</a>	10	56	65	1	85	50	500	30	150	DIL8
<a href="#">THDT58S</a>	10	56	58	1	80	150	800	75	150	SIP3
<a href="#">SMTHDT58</a> (1)	10	56	58	1	80	150	800	75	150	SMC
SMTHD80	10	68	80	1	120	150	800	75	150	SMC
SMDT120	10	102	120	1	180	150	800	75	150	SMC

(1) Single function.

(2) At 10-1000 $\mu s$ .

## SLIC PROTECTION PROGRAMMABLE BREAKDOWN VOLTAGE

Type	Max operating voltage	$I_{RM}$ @ $V_{RM}$ (1) max		$V_{DGL}$ * (2) max	$I_{PP}$ (3) max	$I_H$ min	Package
	(V)	( $\mu A$ )	(V)	(V)	(A)	(mA)	
<a href="#">LCP3121</a>	80	10	85	-	100	150	SO8
<a href="#">LCP150S</a>	80	10	75	15	50	150	SIP4
<a href="#">LCP1511</a>	80	5	75	10	30	150	SO8
<a href="#">LCP1512D</a>	80	5	75	10	30	150	SO8

1)  $V_{GATE/LINE} = -1V$ 2) At 10-700 $\mu s$   $I_{PP} = 30A$   $V_{GATE} = -48V$ 3) At 10-1000 $\mu s$

## ISDN PROTECTION

Types	$I_{RM} @ V_{RM}$		$V_{BR} @ I_R$		$V_{BO} @ I_{BO}$		$I_H$	$V_T$	Package
	max		min		max	max	min	max	
	( $\mu A$ )	(V)	(V)	(mA)	(V)	mA	(mA)	(V)	
<a href="#">TPU58</a>	10	56	58	1	80	800	150	5	CB429
<a href="#">TPU80</a>	10	68	80	1	120	800	150	5	
<a href="#">TPU120</a>	10	102	120	1	180	800	150	5	
<a href="#">SMTHDT58</a>	10	56	58	1	80	800	150	5	SOD15
<a href="#">SMTHDT80</a>	10	68	80	1	120	800	150	5	
<a href="#">SMTHDT120</a>	10	102	120	1	180	800	150	5	
SMDT65	10	56	65	1	90	600	150	4	SOD6
SMDT80	10	68	80	1	120	600	150	4	
SMDT120	10	102	120	1	160	600	150	4	
<a href="#">TPI80xxN</a>	10	70	80	1	120	800	150	8	SO8/DIL8
<a href="#">TPI120xxN</a>	10	105	120	1	180	800	150	8	
▲ <a href="#">TPN3021</a>	4	28	—	—	30	100	30	4	SO8

▲ New Products