

SENSITIVE GATE SCRs IN PLASTIC PACKAGE

T _j max = 125 °C (except TS820-xxxB and TS420-xxxB: 110 °C)													
Type	I _{T(RMS)} (A)	T _a (1) T _I (2) T _c (3) T _{tab} (4) (°C)	V _{RRM} V _{DRM} (V)	I _{TSM} (A)	I _{RRM} @ I _{DRM} @ T _j max max (mA)	T _j = 25°C					dv/dt 67% V _{DRM} T _j max min Typ* (V/μs)	di/dt max (A/μs)	Package
						I _{GT} min (μA)	I _{GT} max (μA)	I _H max (mA)	V _{TM} @ I _{TM} max (V) (A)				
P0102xL P0109xL	0,2	25 (1)	100 → 400 (a)	7	0,1	–	0,2 1	5	1,3	0,4	25	30	SOT23
P0102xN	0,8	70 (1)	100 → 400 (a)	7	0,1	–	0,2	5	1,95	1,6	25	30	SOT223
X0202xN	1,4	90 (4)	200 → 800 (b)	22,5	0,2	–	0,2	5	1,5	2,8	15*	30	SOT223
TS420-400B TS420-600B	4	90 (3)	400 → 600	30	0,2	–	0,2	5	1,8	8	10*	50	DPAK
TS820-400B TS820-600B	8	85 (3)	400 → 600	70	1	–	0,2	5	1,7	16	5*	50	DPAK
TN805-400B TN805-600B TN805-700B TN805-800B	8	105 (3)	400 600 700 800	70	2	–	5	25	1,6	16	50	100	DPAK
TN815-400B TN815-600B TN815-700B TN815-800B	8	105 (3)	400 600 700 800	70	2	–	15	50	1,6	16	100	100	DPAK
TN1215-400G TN1215-600G TN1215-800G	12	90 (3)	200 400 600	120	3	–	15	30	1,6	24	200	100	D ² PAK
TN1625-400G TN1625-600G TN1625-800G	16	95 (3)	200 400 600	160	2	–	25	40	1,6	36	500	100	D ² PAK
TN2540-400G TN2540-600G TN2540-800G	25	95 (3)	200 400 600	250	4	–	40	50	1,6	50	500	100	D ² PAK
TN4050-400G TN4050-600G TN4050-800G	40	85 (3)	200 400 600	400	4	–	50	75	1,8	80	1,000	100	D ² PAK

(1) A = 100V B = 200V C = 300V D = 400V
 (2) B = 200V D = 400V M = 600V N = 800V
 (3) E = 500V M = 600V S = 700V N = 800V
 (4) D = 400V M = 600V S = 700V N = 800V

▲ New Products.

SENSITIVE GATE SCRs IN PLASTIC PACKAGE (cont'd)

T _j max = 125 °C (except TS820-xxxB and TS420-xxxB: 110 °C)													
Type	I _{T(RMS)} (A)	T _a T _I T _c T _{tab} (1) (2) (3) (4) (°C)	V _{RRM} V _{DRM} (V)	I _{TSM} (A)	I _{RRM} @ I _{DRM} @ T _j max max (mA)	T _j = 25°C				dv/dt 67% V _{DRM} T _j max min Typ* (V/μs)	di/dt max (A/μs)	Package	
						I _{GT} min (μA)	I _{GT} max (μA)	I _H max (mA)	V _{TM} @ I _{TM} max (V) (A)				
P0102xL P0109xL	0,2	25 (1)	100 → 400 (a)	7	0,1	— —	200 1	5	1,3 0,4	25 25	30	SOT23	
P0102xN P0109xN P0111xN	0,8	70 (1)	100 → 400 (a)	7	0,1	— — 4	200 1 25	5	1,95 1,6	25 25 50	30	SOT223	
P0102xA P0109xA P0111xA P0115xA	0,8	55 (2)	100 → 400 (a)	7	0,1	— — 4 15	200 1 25 50	5	1,93 1,6	25 25 50 100	30	TO92	
X0202xA X0203xA X0205xA	1,25	60 (2)	200 → 800 (b)	22,5	0,2	— 20 20	200 200 50	5	1,45 2,5	15* 20* 15*	30	TO92	
X0202xN	1,4	90 (4)	200 → 800 (b)	22,5	0,2	—	200	5	1,5 2,8	15*	30	SOT223	
X0402xE X0403xE X0405xE	4	90 (3)	200 → 800 (b)	30	0,2	— 20 20	200 200 50	5	1,8 8	15* 20* 15*	50	TO202-1	
X0402xF X0403xF X0405xF	4	90 (3)	200 → 800 (b)	30	0,2	— 20 20	200 200 50	5	1,8 8	15* 20* 15*	50	TO202-2	
▲ TS420-400B ▲ TS420-600B	4	90 (3)	400 600	30	0,2	—	200	5	1,8 8	10*	50	DPAK	
S0402xH	4	110 (3)	200 → 800 (b)	50	0,5	—	200	10	1,6 8	10*	100	TO220AB	
S0602xH	6	100 (3)	200 → 800 (b)	60	0,5	—	200	10	1,6 12	10*	100	TO220AB	
S0802xH	8	95 (3)	200 → 800 (b)	70	0,5	—	200	10	1,6 16	10*	100	TO220AB	
▲ TS820-400B ▲ TS820-600B	8	85 (3)	400 600	70	1	—	200	5	1,7 16	5*	50	DPAK	

(1) A = 100V B = 200V C = 300V D = 400V
 (2) B = 200V D = 400V M = 600V N = 800V
 (3) E = 500V M = 600V S = 700V N = 800V
 (4) D = 400V M = 600V S = 700V N = 800V

▲ New Products.

STANDARD SCRs IN PLASTIC PACKAGE

Type	I _{T(AV)} (A)	V _{RRM} = V _{DRM} (V)	I _{TSM} (A)	I _{RRM} @ I _{DRM} @ T _j max max (mA)	T _j = 25°C					dv/dt 67% V _{DRM} T _j max min Typ* (V/μs)	di/dt max (A/μs)	Package
					I _{GT} min (mA)	I _{GT} max (mA)	I _H max (mA)	V _{TM} @ I _{TM} max (V) (A)				
4 Arms/T _C = 115°C T _j = 125°C I ² t = 18A ² s												
TYN204 → 1004	2.5	200 → 1000	60	2	–	15	30	1.8	8	200	100	TO220AB
4 Arms/T _C = 110°C T _j = 125°C I ² t = 12,5A ² s												
S0406 • H S0410 • H S0417 • H	2.5	200 → 800 (2)	50	0.5	0.5 10 4	5 25 15	25 75 50	1.6	8	50* 200 100	100	TO220AB
6 Arms/T _C = 110°C T _j = 125°C I ² t = 24,5A ² s												
TYN056 → 1006	3.8	50 → 1000	70	2	–	15	30	1.6	12	200	50	TO220AB
6 Arms/T _C = 100°C T _j = 125°C I ² t = 18A ² s												
S0606 • H S0610 • H S0617 • H	3.8	200 → 800 (2)	60	0.5	0.5 10 4	5 25 15	25 75 50	1.6	12	50* 200 100	100	TO220AB
8 Arms/T _C = 105°C T _j = 125°C I ² t = 32A ² s												
TYN058 → 1008(*)	5	50 → 1000	80	2	Without suffix 15 Suffix G 25		30 45	1.6	16	200 500	50	TO220AB
8 Arms/T _C = 95°C T _j = 125°C I ² t = 32A ² s												
S0806 • H S0810 • H S0817 • H	5.1	200 → 800 (2)	80	0.5	0.5 10 4	5 25 15	25 75 50	1.6	16	50* 200 100	100	TO220AB
10 Arms/T _C = 100°C T _j = 125°C I ² t = 50A ² s												
TYN0510 → 1010	6.4	50 → 1000	100	2	–	15	30	1.6	20	200	50	TO220AB
10 Arms/T _C = 95°C T _j = 125°C I ² t = 50A ² s												
S1006 • H S1010 • H S1017 • H	6.4	200 → 800 (2)	100	1.5	0.5 10 4	5 25 15	15 50 30	1.6	20	10* 200 100	100	TO220AB

(*) Insulating version available (TXN)

(2) B = 200V D = 400V M = 600V N = 800V ex: S0610MH

STANDARD SCRs IN PLASTIC PACKAGE (cont'd)

Type	I _T (AV) (A)	V _{RRM} = V _{DRM} (V)	I _{TSM} (A)	I _{RRM} @ I _{DRM} @ T _j max max (mA)	T _j = 25°C					dv/dt 67% V _{DRM} T _j max min Typ* (V/μs)	di/dt max (A/μs)	Package
					I _{GT} min (mA)	I _{GT} max (mA)	I _H max (mA)	V _{TM} @ I _{TM} max (V) (A)				
12 Arms/T _C = 90°C T _j = 125°C I ² t = 72A ² s												
TYN0512 → 1012(*)	8	50 → 1000	120	2	—	15	30	1.6	24	200	100	TO220AB
12 Arms/T _C = 90°C T _j = 125°C I ² t = 72A ² s												
S1206 • H S1210 • H S1217 • H	7.6	200 → 800 (2)	120	1.5	0.5 10 4	5 25 15	15 50 30	1.6	24	10* 200 100	100	TO220AB
16 Arms/T _C = 95°C T _j = 125°C I ² t = 128A ² s												
TYN0516 → 816	10	50 → 800	160	2	—	25	40	1.6	32	500	100	TO220AB
16 Arms/T _C = 90°C T _j = 125°C I ² t = 128A ² s												
S1610 • H S1616 • H	10	200 → 800 (2)	160	2	10 25	25 50	50 100	1.6	32	400 500	100	TO220AB
20 Arms/T _C = 105°C T _j = 125°C I ² t = 310A ² s												
TYN682 → 692	13	50 → 800	250	2	—	25	40	1.4	50	500	100	TO220AB
25 Arms/T _C = 95°C T _j = 125°C I ² t = 310A ² s												
TYN225 → 1025	16	200 → 1000	250	4	—	40	50	1.6	50	500	100	TO220AB
25 Arms/T _C = 85°C T _j = 125°C I ² t = 310A ² s												
S2514 • H S2516 • H	16	200 → 800 (2)	250	2.5	30 20	75 50	115 100	1.6	50	750 500	100	TO220AB
30 Arms/T _C = 90°C T _j = 125°C I ² t = 512A ² s												
S3014 • H S3016 • H	19	800 → 1200 (4)	320	5	30 20	75 50	115 100	1.6	60	500 500	100	TO220AB
40 Arms/T _C = 85°C T _j = 125°C I ² t = 722A ² s												
S4014 • H S4016 • H	25	200 → 800 (2)	380	3	30 20	75 50	115 100	1.6	80	750 500	100	TO220AB

(*) Insulating version available (TXN)

(2) B = 200V D = 400V M = 600V N = 800V ex: S1610MH

(4) N = 800V P = 1000V V = 1200V ex: S3016PH

STANDARD GATE SCRs IN PLASTIC PACKAGE

Type (See Note)	Fax Code	$I_{T(AV)}$ (A)	V_{RRM} = V_{DRM} (V)	I_{TSM} (A)	I_{RRM} @ V_{RRM} I_{DRM} @ V_{DRM} T_j max max (mA)	$T_j = 25^\circ\text{C}$				$\frac{dv}{dt}$ @ 67% V_{DRM} T_j max min (V/ μs)	$\frac{di}{dt}$ max (A/ μs)	Package
						V_{GT} max (V)	I_{GT} max (mA)	I_H max (mA)	V_{TM} @ I_{TM} max (V) (A)			

30 Arms/ $T_{case} = 80^\circ\text{C}$ $T_j = 125^\circ\text{C}$ $I^2t = 800 \text{ A}^2\text{s}$

BTW 68-200 \rightarrow 1200		19	200 \rightarrow 1200	400	6	1.5	50	75	2.1 60	500 (1) 250 (2)	100	TOP3
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30 Arms/ $T_{case} = 75^\circ\text{C}$ $T_j = 125^\circ\text{C}$ $I^2t = 800 \text{ A}^2\text{s}$

BTW 66-200 \rightarrow 1200		20	200 \rightarrow 1200	400	6	1.5	50	75	2.2 60	500 (1) 250 (2)	100	RD91
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35 Arms/ $T_{case} = 85^\circ\text{C}$ $T_j = 125^\circ\text{C}$ $I^2t = 800 \text{ A}^2\text{s}$

BTW 68-600 N \rightarrow 1200 N		22	600 \rightarrow 1200	400	6	1.5	50	75	2.2 70	500 (1) 250 (2)	100	TOP3
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40 Arms/ $T_{case} = 75^\circ\text{C}$ $T_j = 125^\circ\text{C}$ $I^2t = 1250 \text{ A}^2\text{s}$

BTW 67-200 \rightarrow 1200		25	200 \rightarrow 1200	500	6	1.5	80	150	2 80	500 (1) 250 (2)	100	RD91
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50 Arms/ $T_{case} = 70^\circ\text{C}$ $T_j = 125^\circ\text{C}$ $I^2t = 1250 \text{ A}^2\text{s}$

BTW 69-200 \rightarrow 1200		32	200 \rightarrow 1200	500	6	1.5	80	150	1.9 100	500 (1) 250 (2)	100	TOP3
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55 Arms/ $T_{case} = 75^\circ\text{C}$ $T_j = 125^\circ\text{C}$ $I^2t = 1250 \text{ A}^2\text{s}$

BTW 69-600 N \rightarrow 1200 N		35	600 \rightarrow 1200	500	6	1.5	80	150	2 110	500 (1) 250 (2)	100	TOP3
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Note: BTW insulated (insulating voltage = 2500 V_{RMS}).
BTW + suffix N uninsulated.

- (1) $V_{DRM} \leq 800 \text{ V}$.
(2) $V_{DRM} \geq 1000 \text{ V}$.

SCRs

SENSITIVE AND FAST SCR

Type	$I_{T(AV)}$ (A)	$V_{RRM} = V_{DRM}$ (V)	I_{TSM} (A)	$I_{RRM} @ V_{RRM}$ $I_{DRM} @ V_{DRM}$ $T_j \text{ max}$ (mA)	$T_j = 25^\circ\text{C}$				$\frac{dv}{dt} @ 67\% V_{DRM}$ $T_j \text{ max}$ min (V/ μs)	$\frac{di}{dt}$ $T_j=25^\circ\text{C}$ max (A/ μs)	t_q max (ns)	Package
					I_{GT} min (mA)	I_{GT} max (mA)	I_H max typ* (mA)	$V_{TM} @ I_{TM}$ max (V) (A)				

3.5 $A_{rms}/T_{case} = 85^\circ\text{C}$ $T_j = 125^\circ\text{C}$ $I^2t = 2 \text{ A}^2\text{s}$

▲ TR03- 400T	2	400	20	0.2	—	1.5	5*	2.2 10	20	100	15	TO220AB
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8 $A_{rms}/T_C = 95^\circ\text{C}$ $T_j = 125^\circ\text{C}$ $I^2t = 32 \text{ A}^2\text{s}$

F0810 • H	5.1	200 → 800 (2)	80	1.5	10	25	75	2 16	300	100	20	TO220AB
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SCRs FOR OVERVOLTAGE PROTECTION IN PLASTIC PACKAGE

Type	$I_{T(AV)}$ (A)	$V_{RRM} = V_{DRM}$ (V)	I_{TSM} (A)	$I_{RRM} @ V_{RRM}$ $I_{DRM} @ V_{DRM}$ $T_j \text{ max}$ (mA)	$T_j = 25^\circ\text{C}$				$\frac{dv}{dt} @ 67\% V_{DRM}$ $T_j \text{ max}$ min (V/ μs)	$\frac{di}{dt}$ max (A/ μs)	Package
					V_{GT} max (V)	I_{GT} max (mA)	I_H max (mA)	$V_{TM} @ I_{TM}$ max (V) (A)			

12 $A_{rms}/T_{case} = 110^\circ\text{C}$ $T_j = 125^\circ\text{C}$ $I^2t = 450 \text{ A}^2\text{s}$

TYP 212 → 2012	8	25 → 200	300	2	1.5	30	50	1.5 50	200	100	TO220AB
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▲ New product.

(2) B = 200V D = 400V M = 600V N = 800V ex: F0810MH

MODULE

Type	I _T (A _V) (A)	V _{RRM} = V _{DRM} (V)	I _{TSM} (A)	I _{RRM} @ V _{RRM} I _{DRM} @ V _{DRM} T _j max max (mA)	T _j = 25°C					dv/dt @ 67% V _{DRM} min (V/μs)	di/dt max (A/μs)	Package
					V _{GT} max (V)	I _{GT} max (mA)	I _H max (mA)	V _{TM} max (V)	I _{TM} (A)			

50 Arms/T_{case} = 85°C T_j = 125°C I²t = 800 A²s

MDS35-800 → 1200	25	800 → 1200	400	10	1.5	50	80	1.7	80	500	100	ISOTOP® (Screw version)
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70 Arms/T_{case} = 85°C T_j = 125°C I²t = 1800 A²s

MDS50-800 → 1200	35	800 → 1200	600	10	1.5	50	80	1.75	110	500	100	ISOTOP® (Screw version)
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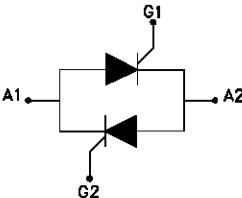
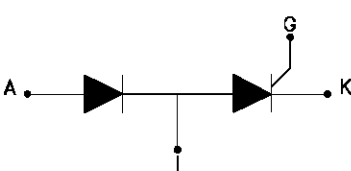
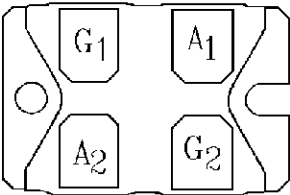
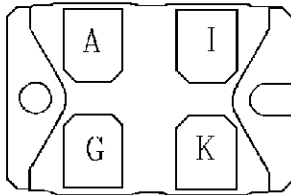
55 Arms/T_{case} = 80°C T_j = 125°C I²t = 800 A²s

▲ MSS40-800 → 1400		800 → 1400	400	10	1.5	50	80	1.7	80	500	100	ISOTOP® (Screw version)
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70 Arms/T_{case} = 80°C T_j = 125°C I²t = 1800 A²s

▲ MSS50-800 → 1400		800 → 1400	600	10	1.5	50	80	1.7	100	500	100	ISOTOP® (Screw version)
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▲ : New product 1400 V

	MSS	MDS
Structure		
Pin connection		

APPLICATION SPECIFIC DISCRETES - AUTOMOTIVE ASD™ : IGNITION CONTROL CIRCUIT

THYRISTOR PARAMETERS

Type	V _{DRM} (V)	I _{TSM} @ T _j = 25°C (A)	I _{GT} @ T _j = 25°C max (mA)	V _{TM} max (V)	@ I _{TM} (A)	I _{DRM} max @ T _j max (mA)	Package
ICC01-400B5	400	5	1	1,9	4	1	SO16
ICC03-400B2	400	5	1	1,9	4	1	DIL8

DIODE PARAMETERS

Type	Diode	V _{RRM} T _j = 25°C (V)	I _{FSM} @ T _j = 25°C tp = 10 ms (A)	I _r @ V _r = V _{rrm} max (mA)	V _F @ I _F @ T _j = 25 °C @ tp < 1 ms (V)	I _F (A)	Package
ICC01-400B5 ICC03-400B2	D1 D2	25 400	2 5	1 1	1,2 1,9	0,1 4	SO16
ICC01-400B5	D3 D4	400 25	5 2	1 1	1,9 1,2	4 0,1	DIL8

APPLICATION SPECIFIC DISCRETES - INDUSTRIAL ASD™: FIRE LIGHTER CIRCUIT

THYRISTORS AND ZENERS PARAMETERS

Type	I_{RM} @ $V_{RM} = 200V$ (μA)	V_{BO} max (A)	I_{BO} max (mA)	I_{BO1} max pin 3 open (mA)	I_{BO2} min pin 1&3 in C/C (mA)	V_T @ I_T @ T_j max max (V) (A)	Package
FLC01-200D	100	250	1	-	-	1,9 4	SOT82
FLC02-200D	100	250	-	0,5	40	1,9 4	SOT82

DIODE PARAMETERS

Type	V_F @ I_F @ T_j max @ $t_p < 1$ ms max (V) (A)
FLC01-200D	1,7 2
FLC02-200D	1,7 2

APPLICATION SPECIFIC DISCRETES - LIGHTING ASD™ : SPECIAL SCRs FOR STARTLIGHT

T _j max = 125 °C													
Type	I _{T(RMS)} (A)	T _a T _I T _c T _{tab} (°C)	V _{RRM} V _{DRM} (V)	I _{TSM} (A)	I _{RRM} @ I _{DRM} @ T _j max max (mA)	T _j = 25°C					dv/dt 67% V _{DRM} T _j max min Typ* (V/μs)	di/dt max (A/μs)	Package
						I _{GT} min (μA)	I _{GT} max (μA)	I _H max (mA)	V _{TM} @ I _{TM} max (V)	I _{TM} (A)			
P0130AL	0,2	25	100	7	0,1	0,1	1	5	1,3	0,4	25	30	SOT23
P0130AA	0,8	55	100	7	0,1	0,1	1	5	1,25	0,5	25	30	TO92

T _j max = 110 °C													
Type	I _{T(RMS)} (A)	T _a T _I T _c T _{tab} (°C)	V _{BR} min (V)	V _{BR} max (V)	I _{TSM} (A)	T _j = 25°C					dv/dt 67% V _{DRM} T _j max min Typ* (V/μs)	di/dt max (A/μs)	Package
						I _{GT} min (μA)	I _{GT} max (μA)	I _H max (mA)	V _{TM} @ I _{TM} max (V)	I _{TM} (A)			
TN22-1500	2	95	1200	1500	20	-	1,5	175	3,1	2	500	50	SOT82 SOT194
TN22-1600			1000	1600	20	-	1,5	175	3,1	2	500	50	SOT82 SOT194