

SOT23



SOT 223



DPAK

D<sup>2</sup>PAK

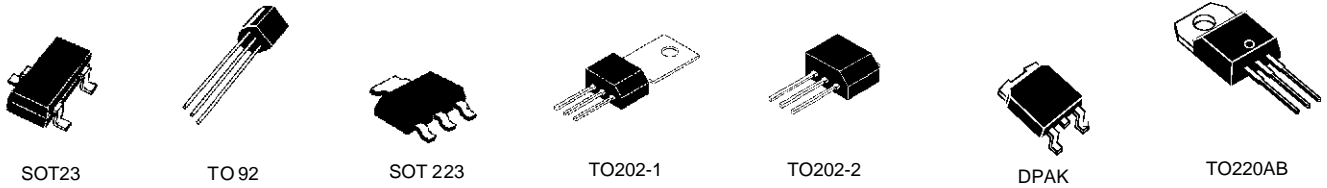
## SURFACE MOUNT SCRs

T <sub>j</sub> max = 125 °C (except TS820-xxxB and TS420-xxxB: 110 °C)													
Type	I <sub>T(RMS)</sub> (A)	T <sub>a</sub> (1) T <sub>I</sub> (2) T <sub>c</sub> (3) T <sub>tab</sub> (4) (°C)	V <sub>RRM</sub> V <sub>DRM</sub> (V)	I <sub>TSM</sub> (A)	I <sub>RRM</sub> @ I <sub>DRM</sub> @ T <sub>j</sub> max (mA)	T <sub>j</sub> = 25°C					dv/dt 67% V <sub>DRM</sub> T <sub>j</sub> max min Typ* (V/μA)	di/dt max (A/μs)	Package
						I <sub>GT</sub> min (μA)	I <sub>GT</sub> max (mA)	I <sub>H</sub> max (mA)	V <sub>TM</sub> @ I <sub>TM</sub> max (V)	I <sub>TM</sub> (A)			
P0102xL P0109xL	0,2	25 (1)	100 → 400 (a)	7	0,1	-	0,2 1μA	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 <sup>2</sup> PAK
♦ TN1625-400G ♦ TN1625-600G ♦ TN1625-800G	16	95 (3)	200 400 600	160	2	-	25	40	1,6	36	500	100	D <sup>2</sup> PAK
♦ TN2540-400G ♦ TN2540-600G ♦ TN2540-800G	25	95 (3)	200 400 600	250	4	-	40	50	1,6	50	500	100	D <sup>2</sup> PAK
♦ TN4050-400G ♦ TN4050-600G ♦ TN4050-800G	40	85 (3)	200 400 600	400	4	-	50	75	1,8	80	1000	100	D <sup>2</sup> PAK

(a) A = 100V B = 200V C = 300V D = 400V

(b) B = 200V D = 400V M = 600V N = 800V

♦ New Products.



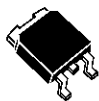
## SENSITIVE GATE SCRs

T <sub>j</sub> max = 125 °C (except TS820-xxxB and TS420-xxxB: 110 °C)													
Type	I <sub>T(RMS)</sub> (A)	T <sub>a</sub> T <sub>i</sub> T <sub>c</sub> T <sub>tab</sub> (1) (2) (3) (4) (°C)	V <sub>RRM</sub> V <sub>DRM</sub> (V)	I <sub>TSM</sub> (A)	I <sub>RRM</sub> @ I <sub>DRM</sub> @ T <sub>j</sub> max max (mA)	T <sub>j</sub> = 25°C				dv/dt 67% V <sub>DRM</sub> T <sub>j</sub> max min Typ* (V/μA)	di/dt max (A/μs)	Package	
						I <sub>GT</sub> min (μA)	I <sub>GT</sub> max (μA)	I <sub>H</sub> max (mA)	V <sub>TM</sub> @ I <sub>TM</sub> max (V)				
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	0,8	55 (2)	100 → 400 (a)	7	0,1	- - 4	200 1 25	5	1,93	1,6	25 25 50	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
♦ TS420-400 ♦ 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

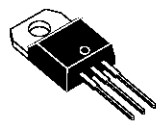
(a) A = 100V B = 200V C = 300V D = 400V

(b) B = 200V D = 400V M = 600V N = 800V

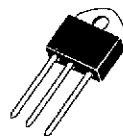
♦ New Products.



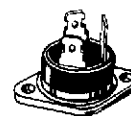
DPAK

D<sup>2</sup>PAK

TO220AB



TOP 3



RD 91

**STANDARD SCRs**

T <sub>j</sub> max = 125 °C													
Type	I <sub>T(RMS)</sub> (A)	T <sub>case</sub> (°C)	V <sub>RRM</sub> V <sub>DRM</sub> (V)	I <sub>TSM</sub> (A)	I <sub>RRM</sub> @ I <sub>DRM</sub> @ T <sub>j</sub> max max (mA)	T <sub>j</sub> = 25°C					dv/dt 67% V <sub>DRM</sub> T <sub>j</sub> max min Typ* (V/μA)	di/dt max (A/μs)	Package
						I <sub>GT</sub> min (mA)	I <sub>GT</sub> max (mA)	I <sub>H</sub> max (mA)	V <sub>TM</sub> @ I <sub>TM</sub> max (V)	I <sub>TM</sub> (A)			
TYN204 TYN404 TYN604 TYN804 TYN1004	4	115	200 400 600 800 1000	60	2	-	15	30	1.8	8	200	100	TO220AB
S0406xH S0410xH S0417xH	4	110	200 → 800 (b)	50	0,5	0,5 10 4	5 25 15	25 75 50	1.6	8	50* 200 100	100	TO220AB
TYN056 TYN156 TYN256 TYN456 TYN656 TYN856 TYN1056	6	110	50 100 200 400 600 800 1000	70	2	-	15	30	1.6	12	200	50	TO220AB
S0606xH S0610xH S0617xH	6	100	200 → 800 (b)	60	0,5	0,5 10 4	5 25 15	25 75 50	1.6	12	50* 200 100	50	TO220AB
♦ 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
S0806xH S0810xH S0817xH	8	95	200 → 800 (b)	80	0,5	0,5 10 4	5 25 15	25 75 50	1.6	16	50* 200 100	100	TO220AB
TYN058 TYN158 TYN258 TYN458 TYN658 TYN858 TYN1058	8	105	50 100 200 400 600 800 1000	80	2	blank : 15 suffix G : 25		30 45	1.6	16	200 500	50	TO220AB

## STANDARD SCRs (cont'd)

T <sub>j</sub> max = 125 °C													
Type	I <sub>T(RMS)</sub> (A)	T <sub>case</sub> (°C)	V <sub>RRM</sub> V <sub>DRM</sub> (V)	I <sub>TSM</sub> (A)	I <sub>RRM</sub> @ I <sub>DRM</sub> @ T <sub>j</sub> max max (mA)	T <sub>j</sub> = 25°C				dv/dt 67% V <sub>DRM</sub> T <sub>j</sub> max min Typ* (V/μA)	di/dt max (A/μs)	Package	
						I <sub>GT</sub> min (mA)	I <sub>GT</sub> max (mA)	I <sub>H</sub> max (mA)	V <sub>TM</sub> @ I <sub>TM</sub> max (V)				
TXN058 TXN158 TXN258 TXN458 TXN658 TXN858 TXN1058	8	100	50 100 200 400 600 800 1000	80	2	blank : 15 suffix G : 25		30 45	1.6	16	200 500	50	TO220AB insulated (1)
TYN0510 TYN110 TYN210 TYN410 TYN610 TYN810 TYN1010	10	100	50 100 200 400 600 800 1000	100	2	-	15	30	1,6	20	200	50	TO220AB
S1006xH S1010xH S1017xH	10	95	200 → 800 (b)	100	1,5	0,5 10 4	5 25 15	15 50 30	1.6	20	10* 200 100	100	TO220AB
♦ TN1215-400G ♦ TN1215-600G ♦ TN1215-800G	12	90	200 400 600	120	3	-	15	30	1.6	24	200	100	D <sup>2</sup> PAK
TYN0512 TYN112 TYN212 TYN412 TYN612 TYN812 TYN1012	12	90	50 100 200 400 600 800 1000	120	2	-	15	30	1.6	24	200	100	TO220AB
TXN0512 TXN112 TXN212 TXN412 TXN612 TXN812 TXN1012	12	80	50 100 200 400 600 800 1000	120	2	-	15	30	1.6	24	200	100	TO220AB insulated (1)
TYP212 TYP512 TYP1012 TYP2012	12	110	25 50 100 200	300	2	-	30	50	1.5	50	200	100	TO220AB
S1206xH S1210xH S1217xH	12	90	200 → 800 (b)	120	1,5	0,5 10 4	5 25 15	15 50 30	1.6	24	10* 200 100	100	TO220AB
♦ TN1625-400G ♦ TN1625-600G ♦ TN1625-800G	16	95	200 400 600	160	2	-	25	40	1.6	36	500	100	D <sup>2</sup> PAK

## STANDARD SCRs (cont'd)

T <sub>j</sub> max = 125 °C													
Type	I <sub>T(RMS)</sub> (A)	T <sub>case</sub> (°C)	V <sub>RRM</sub> V <sub>DRM</sub> (V)	I <sub>TSM</sub> (A)	I <sub>RRM</sub> @ I <sub>DRM</sub> @ T <sub>j</sub> max max (mA)	T <sub>j</sub> = 25°C					dv/dt 67% V <sub>DRM</sub> T <sub>j</sub> max min Typ* (V/μA)	di/dt max (A/μs)	Package
						I <sub>GT</sub> min (mA)	I <sub>GT</sub> max (mA)	I <sub>H</sub> max (mA)	V <sub>TM</sub> @ I <sub>TM</sub> max (V)	I <sub>TM</sub> (A)			
TYN0516 TYN116 TYN216 TYN416 TYN616 TYN816	16	95	50 100 200 400 600 800	160	2	-	25	40	1.6	32	500	100	TO220AB
S1610xH S1616xH	16	90	200 → 800 (b)	160	2	10 25	25 50	50 100	1.6	32	400 500	100	TO220AB
TYN682 TYN683 TYN685 TYN688 TYN690 TYN692	20	105	50 100 200 400 600 800	250	2	-	25	40	1.4	50	500	100	TO220AB
♦ TN2540-400G ♦ TN2540-600G ♦ TN2540-800G	25	95	200 400 600	250	4	-	40	50	1.6	50	500	100	D <sup>2</sup> PAK
TYN225 TYN425 TYN625 TYN825 TYN1025 TYN1225	25	95	200 400 600 800 1000 1200	250	4	-	40	50	1.6	50	500	100	TO220AB
S2514xH S2516xH	25	85	200 → 800 (b)	250	2,5	30 20	75 50	115 100	1.6	50	750 500	100	TO220AB
S3014xH S3016xH	30	90	800 → 1200 (e)	320	5	30 20	75 50	115 100	1.6	60	500	100	TO220AB
♦ TN4050-400G ♦ TN4050-600G ♦ TN4050-800G	40	85	200 400 600	400	4	-	50	75	1,8	80	1000	100	D <sup>2</sup> PAK
S4014xH S4016xH	40	85	200 → 800 (b)	380	3	30 20	75 50	115 100	1,6	80	750 500	100	TO220AB
BTW68-200 BTW68-400 BTW68-600 BTW68-800 BTW68-1000 BTW68-1200	30	80	200 400 600 800 1000 1200	400	6	-	50	75	2.1	60	500 500 500 500 250 250	100	TOP3 insulated (1)
BTW66-200 BTW66-400 BTW66-600 BTW66-800 BTW66-1000 BTW66-1200	30	75	200 400 600 800 1000 1200	400	6	-	50	75	2.2	60	500 500 500 500 250 250	100	RD91 (1)

## STANDARD SCRs (cont'd)

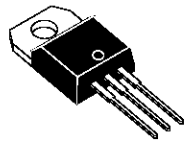
T <sub>j</sub> max = 125 °C													
Type	I <sub>T(RMS)</sub> (A)	T <sub>case</sub> (°C)	V <sub>RRM</sub> V <sub>DRM</sub> (V)	I <sub>TSM</sub> (A)	I <sub>RRM</sub> @ I <sub>DRM</sub> @ T <sub>j</sub> max max (mA)	T <sub>j</sub> = 25°C				dv/dt 67% V <sub>DRM</sub> T <sub>j</sub> max min Typ* (V/μA)	di/dt max (A/μs)	Package	
						I <sub>GT</sub> min (mA)	I <sub>GT</sub> max (mA)	I <sub>H</sub> max (mA)	V <sub>TM</sub> @ I <sub>TM</sub> max (V)				I <sub>TM</sub> (A)
BTW68-600N BTW68-800N BTW68-1000N BTW68-1200N	35	85	600 800 1000 1200	400	6	-	50	75	2.2	70	500 500 250 250	100	TOP3 insulated
BTW67-200 BTW67-400 BTW67-600 BTW67-800 BTW67-1000 BTW67-1200	40	75	200 400 600 800 1000 1200	500	6	1,5	80	150	2	80	500 500 500 500 250 250	100	RD91 (1)
BTW69-200 BTW69-400 BTW69-600 BTW69-800 BTW69-1000 BTW69-1200	50	70	200 400 600 800 1000 1200	500	6	1,5	80	150	1.9	100	500 500 500 500 250 250	100	TOP3 insulated (1)
BTW69-600N BTW69-800N BTW69-1000N BTW69-1200N	55	75	600 800 1000 1200	500	6	1,5	80	150	2	110	500 500 250 250	100	TOP3

(b) B = 200V D = 400V M = 600V N = 800V

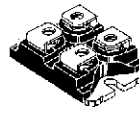
(e) N = 800V P = 1000V V = 1200V

(1) : 2500 V<sub>RMS</sub> isolation voltage - UL Recognized file # E81734

♦ New Products.



TO220AB



ISOTOP™

## FAST SCRs

T <sub>j</sub> max = 125 °C													
Type	I <sub>T(RMS)</sub> (A)	T <sub>case</sub> (°C)	V <sub>RRM</sub> V <sub>DRM</sub> (V)	I <sub>TSM</sub> (A)	I <sub>RRM</sub> @ I <sub>DRM</sub> @ T <sub>j</sub> max max (mA)	T <sub>j</sub> = 25°C					dv/dt 67% V <sub>DRM</sub> T <sub>j</sub> max min Typ* (V/μA)	di/dt max (A/μs)	Package
						I <sub>GT</sub> min (mA)	I <sub>GT</sub> max (mA)	I <sub>H</sub> max (mA)	V <sub>TM</sub> @ I <sub>TM</sub> max (V)	I <sub>TM</sub> (A)			
TR03-400T	3,5	85	400	20	0,2	-	1,5	5*	2,2	10	20	100	15
F0810xH	8	95	400 800 (c)	80	1,5	10	25	75	2	16	300	100	20

(c) D = 400V M = 600V N = 800V

## SCR MODULES

T <sub>j</sub> max = 125 °C													
Type	I <sub>T(RMS)</sub> (A)	T <sub>case</sub> (°C)	V <sub>RRM</sub> V <sub>DRM</sub> (V)	I <sub>TSM</sub> (A)	I <sub>RRM</sub> @ I <sub>DRM</sub> @ T <sub>j</sub> max max (mA)	T <sub>j</sub> = 25°C					dv/dt 67% V <sub>DRM</sub> T <sub>j</sub> max min Typ* (V/μA)	di/dt max (A/μs)	Package
						V <sub>GT</sub> min (V)	I <sub>GT</sub> max (mA)	I <sub>H</sub> max (mA)	V <sub>TM</sub> @ I <sub>TM</sub> max (V)	I <sub>TM</sub> (A)			
MDS35-800 MDS35-1000 MDS35-1200	50	85	800 1000 1200	400	10	1,5	50	80	1,7	80	500	100	ISOTOP (1)
MDS50-800 MDS50-1000 MDS50-1200	70	85	800 1000 1200	400	10	1,5	50	80	1,75	110	500	100	ISOTOP (1)
MDS80-800 MDS80-1000 MDS80-1200	85	85	800 1000 1200	400	10	1,5	150	80	1,75	170	500	100	ISOTOP (1)
MSS40-800 MSS40-1200 MSS40-1400	55	80	800 1200 1400	400	10	1,5	50	80	1,7	80	500	100	ISOTOP (1)
MSS50-800 MSS50-1200 MSS50-1400	70	80	800 1200 1400	600	10	1,5	50	80	1,7	100	500	100	ISOTOP (1)

(1) : 2500 V<sub>RMS</sub> isolation voltage - UL Recognized file # E81734