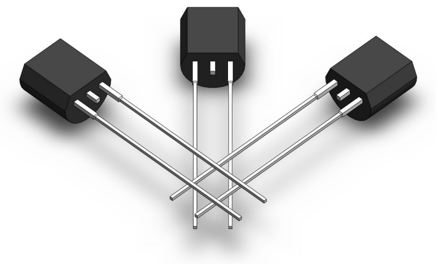
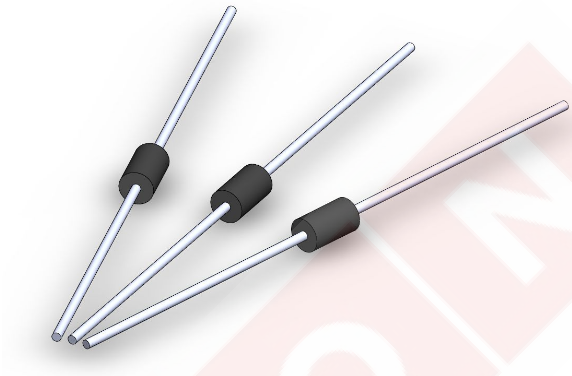
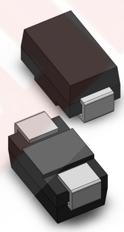
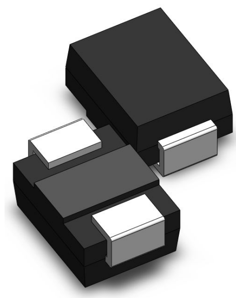




Thyristor Surge Suppressors

TSS半導體放電管



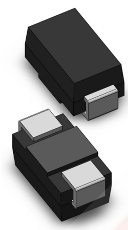


Thyristor Surge Suppressors (TSS)

PXXXXTA Series @10/700μS , 2KV

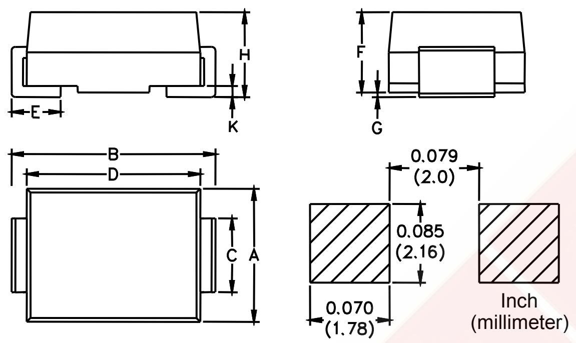
Features

- Low voltage overshoot
- Low on-state voltage
- Does not degrade surge capability after multiple surge events within limit
- Fails short circuit when surged in excess of ratings
- Low Capacitance



DO-214AC / SMA

Dimensions



Pad outline

Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.100	0.110	2.54	2.79
B	0.194	0.208	4.93	5.28
C	0.049	0.065	1.25	1.65
D	0.157	0.177	3.99	4.50
E	0.030	0.060	0.76	1.52
F	0.076	0.096	1.90	2.45
G	0.002	0.008	0.05	0.20
H	0.078	0.090	1.98	2.29
K	0.006	0.012	0.15	0.30

Electrical Characteristics

Part Number	Marking	V_{DRM} @I_{DRM}=5µA	V_S @100V/µS	V_T @I_T=2.2A	I_S	I_T	I_H	C_0 @1MHz	
		V min	V max	V max	mA max	A max	mA min	pF min	pF max
P0080TA	P008A	6	25	4	800	2.2	50	25	50
P0300TA	P03A	25	40	4	800	2.2	50	15	70
P0640TA	P06A	58	77	4	800	2.2	150	40	50
P0720TA	P07A	65	88	4	800	2.2	150	35	50
P0900TA	P09A	75	98	4	800	2.2	150	25	45
P1100TA	P11A	90	130	4	800	2.2	150	30	45
P1300TA	P13A	120	160	4	800	2.2	150	25	45
P1500TA	P15A	140	180	4	800	2.2	150	25	40
P1800TA	P18A	170	220	4	800	2.2	150	25	40
P2000TA	P20A	180	220	4	800	2.2	150	20	40
P2300TA	P23A	190	260	4	800	2.2	150	25	35
P2600TA	P26A	220	300	4	800	2.2	150	20	35
P3100TA	P31A	275	350	4	800	2.2	150	20	30
P3500TA	P35A	320	400	4	800	2.2	150	20	30
P4000TA	P40A	360	460	4	800	2.2	150	20	30
P4500TA	P45A	400	540	4	800	2.2	150	20	30
P5000TA	P50A	440	600	4	800	2.2	150	20	30

Notes:
- Absolute maximum ratings measured at T_A= 25ºC (unless otherwise noted).
- Devices are bi-directional.

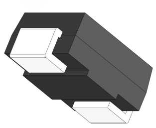
Surge Ratings

Series	2/10µS¹	8/20µS¹	10/160µS¹	10/560µS¹	10/1000µS¹	5/310µS¹	I_{TSM} 50/60 Hz	di/dt
	2/10µS²	1.2/50µS²	10/160µS²	10/560µS²	10/1000µS²	10/700µS²		
	A min	A min	A min	A min	A min	A min	A min	Amps/µs max
A	150	150	90	50	45	50	20	500

Notes:
1. Current waveform in µs
2. Voltage waveform in µs

- Peak pulse current rating (I_{PP}) is repetitive and guaranteed for the life of the product.
- I_{PP} ratings applicable over temperature range of -40ºC to +85ºC
- The device must initially be in thermal equilibrium with -40°C < T_J < +150°C

Thermal Considerations

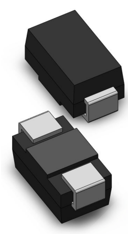
Package	Symbol	Parameter	Value	Unit
DO-214AC 	T_J	Operating Junction Temperature Range	- 40 to + 150	°C
	T_S	Storage Temperature Range	- 40 to +150	°C
	$R_{\theta JA}$	Thermal Resistance: Junction to Ambient	90	°C/W

Thyristor Surge Suppressors (TSS)

PXXXXTB @10/700μS , 4KV

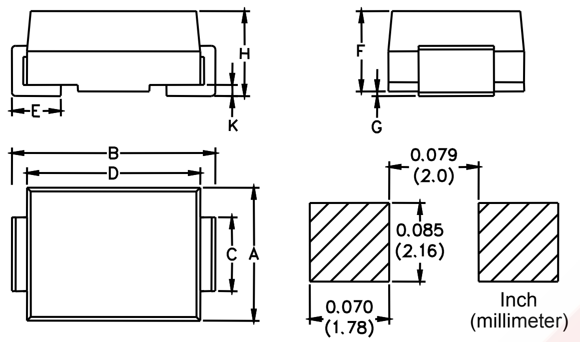
Features

- Low voltage overshoot
- Low on-state voltage
- Does not degrade surge capability after multiple surge events within limit
- Fails short circuit when surged in excess of ratings
- Low Capacitance



DO-214AC / SMA

Dimensions



Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.100	0.110	2.54	2.79
B	0.194	0.208	4.93	5.28
C	0.049	0.065	1.25	1.65
D	0.157	0.177	3.99	4.50
E	0.030	0.060	0.76	1.52
F	0.076	0.096	1.90	2.45
G	0.002	0.008	0.05	0.20
H	0.078	0.090	1.98	2.29
K	0.006	0.012	0.15	0.30

Electrical Characteristics

Part Number	Marking	V_{DRM} @I_{DRM}=5μA	V_S @100V/μS	V_T @I_T=2.2A	I_S	I_T	I_H	C_0 @1MHz	
		V min	V max	V max	mA max	A max	mA min	pF min	pF max
P0080TB	P008A	6	25	2.5	800	1	20	25	65

Notes:
- Absolute maximum ratings measured at T_A= 25°C (unless otherwise noted).
- Devices are bi-directional.

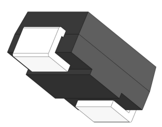
Surge Ratings

Series	2/10μS[1]	8/20μS[1]	10/160μS[1]	10/560μS[1]	10/1000μS[1]	5/310μS[1]	I_{TSM} 50/60 Hz	di/dt
	2/10μS[2]	1.2/50μS[2]	10/160μS[2]	10/560μS[2]	10/1000μS[2]	10/700μS[2]		
	A min	A min	A min	A min	A min	A min	A min	Amps/μs max
B	250	250	150	100	80	100	30	500

Notes:
1. Current waveform in μs
2. Voltage waveform in μs

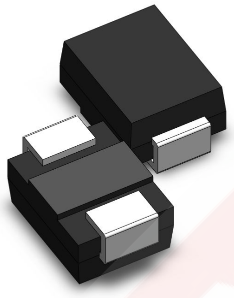
- Peak pulse current rating (I_{PP}) is repetitive and guaranteed for the life of the product.
- I_{PP} ratings applicable over temperature range of -40°C to +85°C
- The device must initially be in thermal equilibrium with -40°C < T_J < +150°C

Thermal Considerations

Package	Symbol	Parameter	Value	Unit
DO-214AC 	T_J	Operating Junction Temperature Range	- 40 to + 150	°C
	T_S	Storage Temperature Range	- 40 to +150	°C
	$R_{θJA}$	Thermal Resistance: Junction to Ambient	90	°C/W

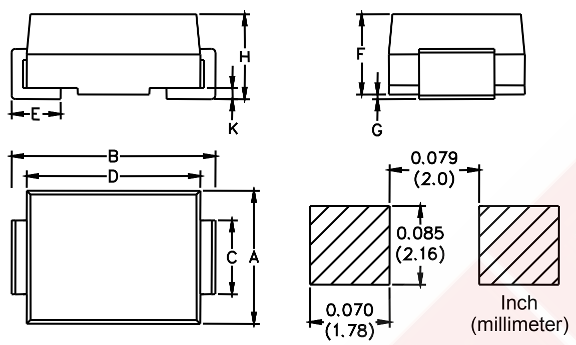
Features

- Low voltage overshoot
- Low on-state voltage
- Does not degrade surge capability after multiple surge events within limit
- Fails short circuit when surged in excess of ratings
- Low Capacitance



DO-214AA / SMB

Dimensions



Pad outline

Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.130	0.156	3.30	3.95
B	0.201	0.220	5.10	5.60
C	0.077	0.087	1.95	2.20
D	0.159	0.181	4.05	4.60
E	0.030	0.063	0.76	1.60
F	0.076	0.096	1.90	2.45
G	0.002	0.008	0.05	0.20
H	0.077	0.104	1.95	2.65
K	0.006	0.016	0.15	0.41

Thyristor Surge Suppressors (TSS)

PXXXXSA Series @10/700µS , 2KV

Electrical Characteristics

Part Number	Marking	V_{DRM} @I_{DRM}=5µA	V_S @100V/µS	V_T @I_T=2.2A	I_S	I_T	I_H	C_0 @1MHz	
		V min	V max	V max	mA max	A max	mA min	pF min	pF max
P0080SA	P008A	6	25	4	800	2.2	50	25	150
P0300SA	P03A	25	40	4	800	2.2	50	15	140
P0640SA	P06A	58	77	4	800	2.2	150	40	60
P0720SA	P07A	65	88	4	800	2.2	150	35	60
P0900SA	P09A	75	98	4	800	2.2	150	25	55
P1100SA	P11A	90	130	4	800	2.2	150	30	50
P1300SA	P13A	120	160	4	800	2.2	150	25	45
P1500SA	P15A	140	180	4	800	2.2	150	25	40
P1800SA	P18A	170	220	4	800	2.2	150	25	35
P2000SA	P20A	180	220	4	800	2.2	150	20	35
P2300SA	P23A	190	260	4	800	2.2	150	25	35
P2600SA	P26A	220	300	4	800	2.2	150	20	35
P3100SA	P31A	275	350	4	800	2.2	150	20	35
P3500SA	P35A	320	400	4	800	2.2	150	20	35
P4000SA	P40A	360	460	4	800	2.2	150	20	35
P4200SA	P42A	400	520	4	800	2.2	50	20	35

Notes:
- Absolute maximum ratings measured at T_A= 25ºC (unless otherwise noted).
- Devices are bi-directional.

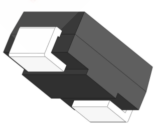
Surge Ratings

Series	2/10µS[1]	8/20µS[1]	10/160µS[1]	10/560µS[1]	10/1000µS[1]	5/310µS[1]	I_{TSM} 50/60 Hz	di/dt
	2/10µS[2]	1.2/50µS[2]	10/160µS[2]	10/560µS[2]	10/1000µS[2]	10/700µS[2]		
	A min	A min	A min	A min	A min	A min	A min	Amps/µs max
A	150	150	90	50	45	50	20	500

Notes:
1. Current waveform in µs
2. Voltage waveform in µs

- Peak pulse current rating (I_{PP}) is repetitive and guaranteed for the life of the product.
- I_{PP} ratings applicable over temperature range of -40ºC to +85ºC
- The device must initially be in thermal equilibrium with -40°C < T_J < +150°C

Thermal Considerations

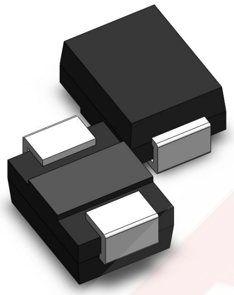
Package	Symbol	Parameter	Value	Unit
DO-214AA 	T_J	Operating Junction Temperature Range	- 40 to + 150	°C
	T_S	Storage Temperature Range	- 40 to +150	°C
	$R_{θJA}$	Thermal Resistance: Junction to Ambient	90	°C/W

Thyristor Surge Suppressors (TSS)

PXXXXSB Series @10/700μS , 4KV

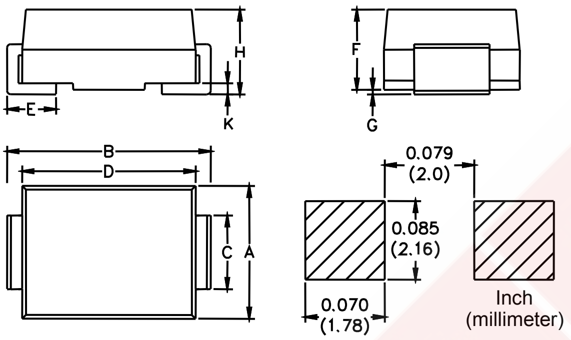
Features

- Low voltage overshoot
- Low on-state voltage
- Does not degrade surge capability after multiple surge events within limit
- Fails short circuit when surged in excess of ratings
- Low Capacitance



DO-214AA / SMB

Dimensions



Pad outline

Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.130	0.156	3.30	3.95
B	0.201	0.220	5.10	5.60
C	0.077	0.087	1.95	2.20
D	0.159	0.181	4.05	4.60
E	0.030	0.063	0.76	1.60
F	0.076	0.096	1.90	2.45
G	0.002	0.008	0.05	0.20
H	0.077	0.104	1.95	2.65
K	0.006	0.016	0.15	0.41

Thyristor Surge Suppressors (TSS)

PXXXXSB Series @10/700µS , 4KV

Electrical Characteristics

Part Number	Marking	V_{DRM} @I_{DRM}=5µA	V_S @100V/µS	V_T @I_T=2.2A	I_S	I_T	I_H	C_0 @1MHz	
		V min	V max	V max	mA max	A max	mA min	pF min	pF max
P0080SB	P008B	6	25	4	800	2.2	50	25	150
P0300SB	P03B	25	40	4	800	2.2	50	15	140
P0640SB	P06B	58	77	4	800	2.2	150	40	60
P0720SB	P07B	65	88	4	800	2.2	150	35	60
P0900SB	P09B	75	98	4	800	2.2	150	25	55
P1100SB	P11B	90	130	4	800	2.2	150	30	50
P1300SB	P13B	120	160	4	800	2.2	150	25	45
P1500SB	P15B	140	180	4	800	2.2	150	25	40
P1800SB	P18B	170	220	4	800	2.2	150	25	35
P2000SB	P20B	180	220	4	800	2.2	150	20	35
P2300SB	P23B	190	260	4	800	2.2	150	25	35
P2600SB	P26B	220	300	4	800	2.2	150	20	35
P3100SB	P31B	275	350	4	800	2.2	150	20	35
P3500SB	P35B	320	400	4	800	2.2	150	20	35
P4000SB	P40B	360	460	4	800	2.2	150	20	35
P4200SB	P42B	400	520	4	800	2.2	50	20	35

Notes:

- Absolute maximum ratings measured at T_A= 25ºC (unless otherwise noted).
- Devices are bi-directional.

Surge Ratings

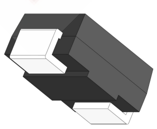
Series	2/10µS[1]	8/20µS[1]	10/160µS[1]	10/560µS[1]	10/1000µS[1]	5/310µS[1]	I_{TSM} 50/60 Hz	di/dt
	2/10µS[2]	1.2/50µS[2]	10/160µS[2]	10/560µS[2]	10/1000µS[2]	10/700µS[2]		
	A min	A min	A min	A min	A min	A min	A min	Amps/µs max
B	250	250	150	100	80	100	30	500

Notes:

1. Current waveform in µs
2. Voltage waveform in µs

- Peak pulse current rating (I_{PP}) is repetitive and guaranteed for the life of the product.
- I_{PP} ratings applicable over temperature range of -40ºC to +85ºC
- The device must initially be in thermal equilibrium with -40°C < T_J < +150°C

Thermal Considerations

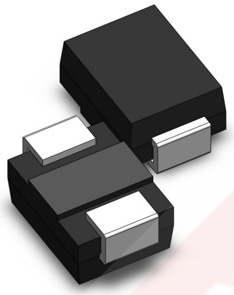
Package	Symbol	Parameter	Value	Unit
DO-214AA 	T_J	Operating Junction Temperature Range	- 40 to + 150	°C
	T_S	Storage Temperature Range	- 40 to +150	°C
	$R_{\theta JA}$	Thermal Resistance: Junction to Ambient	90	°C/W

Thyristor Surge Suppressors (TSS)

PXXXXSC Series @10/700μS , 6KV

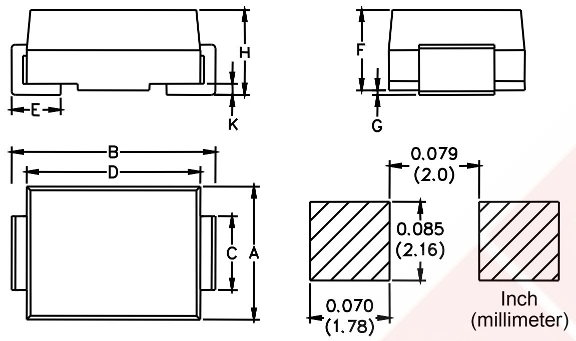
Features

- Low voltage overshoot
- Low on-state voltage
- Does not degrade surge capability after multiple surge events within limit
- Fails short circuit when surged in excess of ratings
- Low Capacitance



DO-214AA / SMB

Dimensions



Pad outline

Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.130	0.156	3.30	3.95
B	0.201	0.220	5.10	5.60
C	0.077	0.087	1.95	2.20
D	0.159	0.181	4.05	4.60
E	0.030	0.063	0.76	1.60
F	0.076	0.096	1.90	2.45
G	0.002	0.008	0.05	0.20
H	0.077	0.104	1.95	2.65
K	0.006	0.016	0.15	0.41

Electrical Characteristics

Part Number	Marking	V_{DRM} @I_{DRM}=5μA	V_S @100V/μS	V_T @I_T=2.2A	I_S	I_T	I_H	C_0 @1MHz	
		V min	V max	V max	mA max	A max	mA min	pF min	pF max
P0080SC	P008C	6	25	4	800	2.2	50	25	150
P0300SC	P03C	25	40	4	800	2.2	50	15	140
P0640SC	P06C	58	77	4	800	2.2	150	40	60
P0720SC	P07C	65	88	4	800	2.2	150	35	60
P0900SC	P09C	75	98	4	800	2.2	150	25	55
P1100SC	P11C	90	130	4	800	2.2	150	30	50
P1300SC	P13C	120	160	4	800	2.2	150	25	45
P1500SC	P15C	140	180	4	800	2.2	150	25	40
P1800SC	P18C	170	220	4	800	2.2	150	25	35
P2000SC	P20C	180	220	4	800	2.2	150	20	35
P2300SC	P23C	190	260	4	800	2.2	150	25	35
P2600SC	P26C	220	300	4	800	2.2	150	20	35
P3100SC	P31C	275	350	4	800	2.2	150	20	35
P3500SC	P35C	320	400	4	800	2.2	150	20	35
P4000SC	P40C	360	460	4	800	2.2	150	20	35
P4200SC	P42C	400	520	4	800	2.2	50	20	35

Notes:
- Absolute maximum ratings measured at T_A= 25°C (unless otherwise noted).
- Devices are bi-directional.

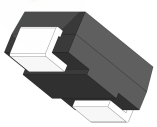
Surge Ratings

Series	2/10μS[1]	8/20μS[1]	10/160μS[1]	10/560μS[1]	10/1000μS[1]	5/310μS[1]	I_{TSM} 50/60 Hz	di/dt
	2/10μS[2]	1.2/50μS[2]	10/160μS[2]	10/560μS[2]	10/1000μS[2]	10/700μS[2]		
	A min	A min	A min	A min	A min	A min	A min	Amps/μs max
C	500	400	200	150	100	150	50	500

Notes:
1. Current waveform in μs
2. Voltage waveform in μs

- Peak pulse current rating (I_{PP}) is repetitive and guaranteed for the life of the product.
- I_{PP} ratings applicable over temperature range of -40ºC to +85ºC
- The device must initially be in thermal equilibrium with -40°C < T_J < +150°C

Thermal Considerations

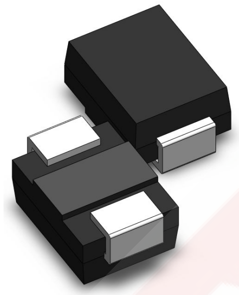
Package	Symbol	Parameter	Value	Unit
DO-214AA 	T_J	Operating Junction Temperature Range	- 40 to + 150	°C
	T_S	Storage Temperature Range	- 40 to +150	°C
	$R_{\theta JA}$	Thermal Resistance: Junction to Ambient	90	°C/W

Thyristor Surge Suppressors (TSS)

PXXXX2SA Series @10/700μS , 2KV

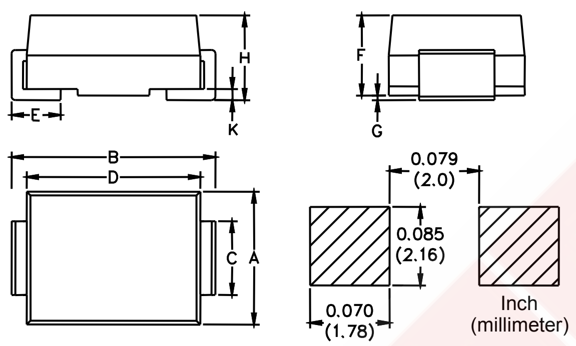
Features

- Low voltage overshoot
- Low on-state voltage
- Does not degrade with use
- Fails short circuit when surged in excess of ratings
- Low distortion
- 40% lower capacitance than comparable product



DO-214AA / SMB

Dimensions



Pad outline

Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.130	0.156	3.30	3.95
B	0.201	0.220	5.10	5.60
C	0.077	0.087	1.95	2.20
D	0.159	0.181	4.05	4.60
E	0.030	0.063	0.76	1.60
F	0.076	0.096	1.90	2.45
G	0.002	0.008	0.05	0.20
H	0.077	0.104	1.95	2.65
K	0.006	0.016	0.15	0.41

Thyristor Surge Suppressors (TSS)

PXXXX2SA Series @10/700μS , 2KV

Electrical Characteristics

Part Number	Marking	V_{DRM} @I_{DRM}=5μA	V_S @100V/μS	V_T @I_T=2.2A	I_S	I_T	I_H	C_0 @1MHz	
		V min	V max	V max	mA max	A max	mA min	pF min	pF max
P0642SA	P06A	58	77	4	800	2.2	120	25	45
P0722SA	P07A	65	88	4	800	2.2	120	20	45
P0902SA	P09A	75	98	4	800	2.2	120	20	40
P1102SA	P11A	90	130	4	800	2.2	120	15	35
P1302SA	P13A	120	160	4	800	2.2	120	15	35
P1502SA	P15A	140	180	4	800	2.2	120	15	30
P1802SA	P18A	170	220	4	800	2.2	120	10	30
P2302SA	P23A	190	260	4	800	2.2	120	10	25
P2602SA	P26A	220	300	4	800	2.2	120	10	25
P3002SA	P30A	280	360	4	800	2.2	120	10	25
P3502SA	P35A	320	400	4	800	2.2	120	10	20
P4202SA	P42A	380	500	4	800	2.2	120	10	20
P4802SA	P48A	440	600	4	800	2.2	120	5	20
P6002SA	P60A	550	700	4	800	2.2	120	5	20

Notes:
- Absolute maximum ratings measured at T_A= 25ºC (unless otherwise noted).
- Devices are bi-directional.

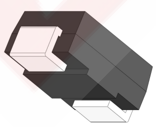
Surge Ratings

Series	2/10μS[1]	8/20μS[1]	10/160μS[1]	10/560μS[1]	10/1000μS[1]	5/310μS[1]	I_{TSM} 50/60 Hz	di/dt
	2/10μS[2]	1.2/50μS[2]	10/160μS[2]	10/560μS[2]	10/1000μS[2]	10/700μS[2]		
	A min	A min	A min	A min	A min	A min	A min	Amps/μs max
A	150	150	90	50	45	50	20	500

Notes:
1. Current waveform in μs
2. Voltage waveform in μs

- Peak pulse current rating (I_{PP}) is repetitive and guaranteed for the life of the product.
- I_{PP} ratings applicable over temperature range of -40ºC to +85ºC
- The device must initially be in thermal equilibrium with -40°C < T_J < +150°C

Thermal Considerations

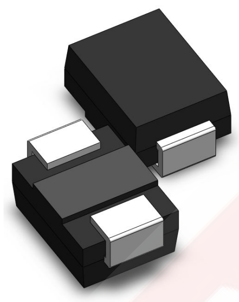
Package	Symbol	Parameter	Value	Unit
DO-214AA 	T_J	Operating Junction Temperature Range	- 40 to + 150	°C
	T_S	Storage Temperature Range	- 40 to +150	°C
	$R_{\theta JA}$	Thermal Resistance: Junction to Ambient	90	°C/W

Thyristor Surge Suppressors (TSS)

PXXXX2SB Series @10/700μS , 4KV

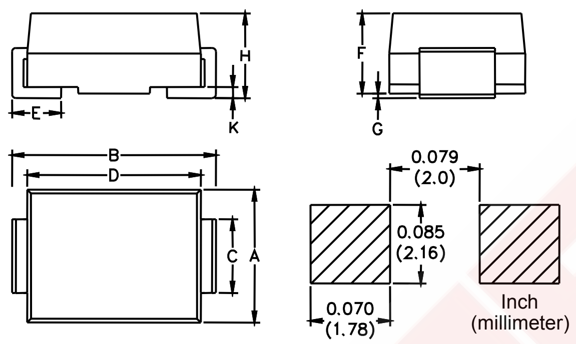
Features

- Low voltage overshoot
- Low on-state voltage
- Does not degrade with use
- Fails short circuit when surged in excess of ratings
- Low distortion
- 40% lower capacitance than comparable product



DO-214AA / SMB

Dimensions



Pad outline

Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.130	0.156	3.30	3.95
B	0.201	0.220	5.10	5.60
C	0.077	0.087	1.95	2.20
D	0.159	0.181	4.05	4.60
E	0.030	0.063	0.76	1.60
F	0.076	0.096	1.90	2.45
G	0.002	0.008	0.05	0.20
H	0.077	0.104	1.95	2.65
K	0.006	0.016	0.15	0.41

Thyristor Surge Suppressors (TSS)

PXXXX2SB Series @10/700µS , 4KV

Electrical Characteristics

Part Number	Marking	V_{DRM} @I_{DRM}=5µA	V_S @100V/µS	V_T @I_T=2.2A	I_S	I_T	I_H	C_0 @1MHz	
		V min	V max	V max	mA max	A max	mA min	pF min	pF max
P0642SB	P06B	58	77	4	800	2.2	120	25	45
P0722SB	P07B	65	88	4	800	2.2	120	20	45
P0902SB	P09B	75	98	4	800	2.2	120	20	40
P1102SB	P11B	90	130	4	800	2.2	120	15	35
P1302SB	P13B	120	160	4	800	2.2	120	15	35
P1502SB	P15B	140	180	4	800	2.2	120	15	30
P1802SB	P18B	170	220	4	800	2.2	120	10	30
P2302SB	P23B	190	260	4	800	2.2	120	10	25
P2602SB	P26B	220	300	4	800	2.2	120	10	25
P3002SB	P30B	280	360	4	800	2.2	120	10	25
P3502SB	P35B	320	400	4	800	2.2	120	10	20
P4202SB	P42B	380	500	4	800	2.2	120	10	20
P4802SB	P48B	440	600	4	800	2.2	120	5	20
P6002SB	P60B	550	700	4	800	2.2	120	5	20

Notes:
- Absolute maximum ratings measured at T_A= 25ºC (unless otherwise noted).
- Devices are bi-directional.

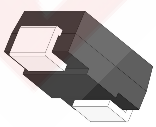
Surge Ratings

Series	2/10µS[1]	8/20µS[1]	10/160µS[1]	10/560µS[1]	10/1000µS[1]	5/310µS[1]	I_{TSM} 50/60 Hz	di/dt
	2/10µS[2]	1.2/50µS[2]	10/160µS[2]	10/560µS[2]	10/1000µS[2]	10/700µS[2]		
	A min	A min	A min	A min	A min	A min	A min	Amps/µs max
B	250	250	150	100	80	100	30	500

Notes:
1. Current waveform in µs
2. Voltage waveform in µs

- Peak pulse current rating (I_{PP}) is repetitive and guaranteed for the life of the product.
- I_{PP} ratings applicable over temperature range of -40ºC to +85ºC
- The device must initially be in thermal equilibrium with -40°C < T_J < +150°C

Thermal Considerations

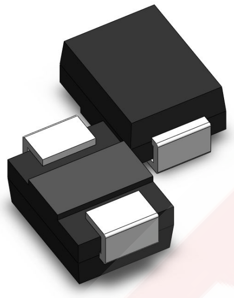
Package	Symbol	Parameter	Value	Unit
DO-214AA 	T_J	Operating Junction Temperature Range	- 40 to + 150	°C
	T_S	Storage Temperature Range	- 40 to +150	°C
	$R_{\theta JA}$	Thermal Resistance: Junction to Ambient	90	°C/W

Thyristor Surge Suppressors (TSS)

PXXXX2SC Series @10/700μS , 6KV

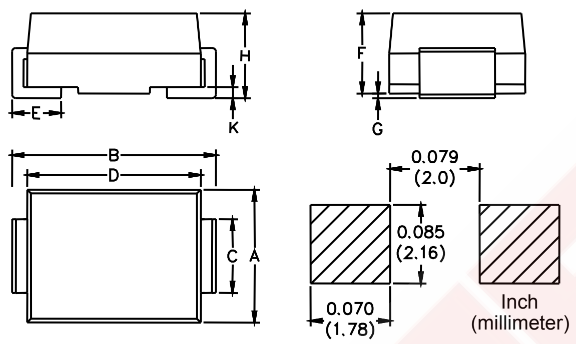
Features

- Low voltage overshoot
- Low on-state voltage
- Does not degrade with use
- Fails short circuit when surged in excess of ratings
- Low distortion
- 40% lower capacitance than comparable product



DO-214AA / SMB

Dimensions



Pad outline

Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.130	0.156	3.30	3.95
B	0.201	0.220	5.10	5.60
C	0.077	0.087	1.95	2.20
D	0.159	0.181	4.05	4.60
E	0.030	0.063	0.76	1.60
F	0.076	0.096	1.90	2.45
G	0.002	0.008	0.05	0.20
H	0.077	0.104	1.95	2.65
K	0.006	0.016	0.15	0.41

Thyristor Surge Suppressors (TSS)

PXXXX2SC Series @10/700μS , 6KV

Electrical Characteristics

Part Number	Marking	V_{DRM} @I_{DRM}=5μA	V_S @100V/μS	V_T @I_T=2.2A	I_S	I_T	I_H	C_0 @1MHz	
		V min	V max	V max	mA max	A max	mA min	pF min	pF max
P0642SC	P06C	58	77	4	800	2.2	120	25	45
P0722SC	P07C	65	88	4	800	2.2	120	20	45
P0902SC	P09C	75	98	4	800	2.2	120	20	40
P1102SC	P11C	90	130	4	800	2.2	120	15	35
P1302SC	P13C	120	160	4	800	2.2	120	15	35
P1502SC	P15C	140	180	4	800	2.2	120	15	30
P1802SC	P18C	170	220	4	800	2.2	120	10	30
P2302SC	P23C	190	260	4	800	2.2	120	10	25
P2602SC	P26C	220	300	4	800	2.2	120	10	25
P3002SC	P30C	280	360	4	800	2.2	120	10	25
P3502SC	P35C	320	400	4	800	2.2	120	10	20
P4202SC	P42C	380	500	4	800	2.2	120	10	20
P4802SC	P48C	440	600	4	800	2.2	120	5	20
P6002SC	P60C	550	700	4	800	2.2	120	5	20

Notes:
- Absolute maximum ratings measured at T_A= 25°C (unless otherwise noted).
- Devices are bi-directional.

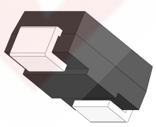
Surge Ratings

Series	2/10μS[1]	8/20μS[1]	10/160μS[1]	10/560μS[1]	10/1000μS[1]	5/310μS[1]	I_{TSM} 50/60 Hz	di/dt
	2/10μS[2]	1.2/50μS[2]	10/160μS[2]	10/560μS[2]	10/1000μS[2]	10/700μS[2]		
	A min	A min	A min	A min	A min	A min	A min	Amps/μs max
C	500	400	200	150	100	150	50	500

Notes:
1. Current waveform in μs
2. Voltage waveform in μs

- Peak pulse current rating (I_{PP}) is repetitive and guaranteed for the life of the product.
- I_{PP} ratings applicable over temperature range of -40°C to +85°C
- The device must initially be in thermal equilibrium with -40°C < T_J < +150°C

Thermal Considerations

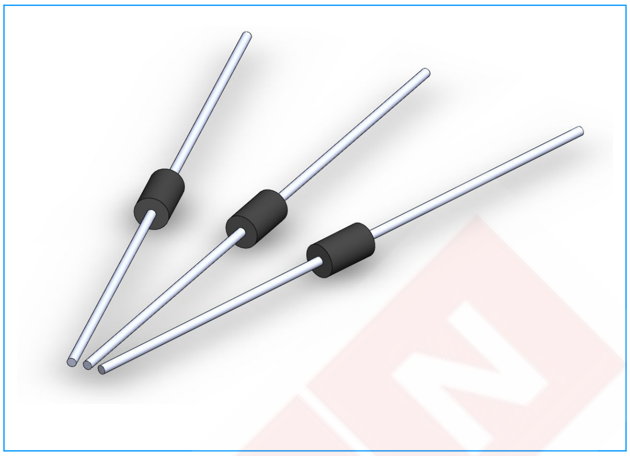
Package	Symbol	Parameter	Value	Unit
DO-214AA 	T_J	Operating Junction Temperature Range	- 40 to + 150	°C
	T_S	Storage Temperature Range	- 40 to +150	°C
	$R_{\theta JA}$	Thermal Resistance: Junction to Ambient	90	°C/W

Thyristor Surge Suppressors (TSS)

PXXXXLA Series @10/700μS , 2KV

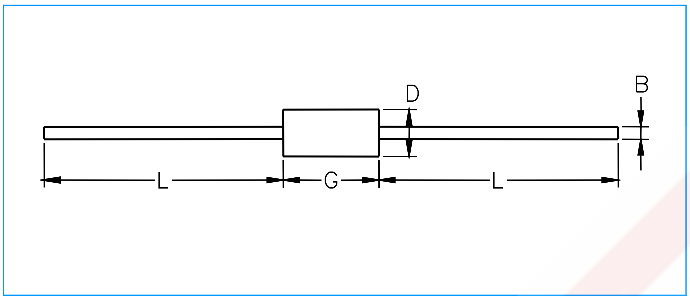
Features

- Low voltage overshoot
- Low on-state voltage
- Does not degrade surge capability after multiple surge events within limit
- Fails short circuit when surged in excess of ratings
- Low Capacitance



DO-41

Dimensions



Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
B	0.028	0.035	0.70	0.90
D	0.102	0.140	2.60	3.60
G	0.193	0.220	4.90	5.60
L	1.000		25.40	

Thyristor Surge Suppressors (TSS)

PXXXXLA Series @10/700μS , 2KV

Electrical Characteristics

Part Number	Marking	V_{DRM} @I_{DRM}=5μA	V_S @100V/μS	V_T @I_T=2.2A	I_S	I_T	I_H	C_0 @1MHz	
		V min	V max	V max	mA max	A max	mA min	pF min	pF max
P0080LA	P008LA	6	25	4	800	2.2	50	25	150
P0300LA	P03LA	25	40	4	800	2.2	50	15	140
P0640LA	P06LA	58	77	4	800	2.2	150	40	60
P0720LA	P07LA	65	88	4	800	2.2	150	35	60
P0900LA	P09LA	75	98	4	800	2.2	150	25	55
P1100LA	P11LA	90	130	4	800	2.2	150	30	50
P1300LA	P13LA	120	160	4	800	2.2	150	25	45
P1500LA	P15LA	140	180	4	800	2.2	150	25	40
P1800LA	P18LA	170	220	4	800	2.2	150	25	35
P2000LA	P20LA	180	220	4	800	2.2	150	20	35
P2300LA	P23LA	190	260	4	800	2.2	150	25	35
P2600LA	P26LA	220	300	4	800	2.2	150	20	35
P3100LA	P31LA	275	350	4	800	2.2	150	20	35
P3500LA	P35LA	320	400	4	800	2.2	150	20	35
P4000LA	P40LA	360	460	4	800	2.2	150	20	35
P4500LA	P45LA	400	540	4	800	2.2	150	20	35
P5000LA	P50LA	440	600	4	800	2.2	150	20	35

Notes:
- Absolute maximum ratings measured at T_A= 25°C (unless otherwise noted).
- Devices are bi-directional.

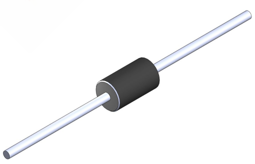
Surge Ratings

Series	2/10μS[1]	8/20μS[1]	10/160μS[1]	10/560μS[1]	10/1000μS[1]	5/310μS[1]	I_{TSM} 50/60 Hz	di/dt
	2/10μS[2]	1.2/50μS[2]	10/160μS[2]	10/560μS[2]	10/1000μS[2]	10/700μS[2]		
	A min	A min	A min	A min	A min	A min	A min	Amps/μs max
A	150	150	90	50	45	50	20	500

Notes:
1. Current waveform in μs
2. Voltage waveform in μs

- Peak pulse current rating (I_{PP}) is repetitive and guaranteed for the life of the product.
- I_{PP} ratings applicable over temperature range of -40ºC to +85ºC
- The device must initially be in thermal equilibrium with -40°C < T_J < +150°C

Thermal Considerations

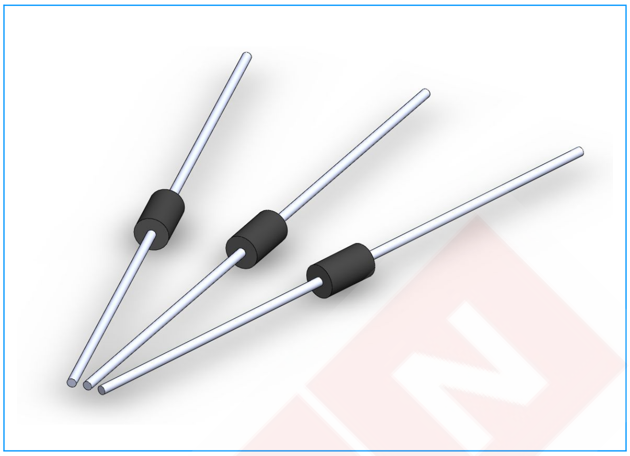
Package	Symbol	Parameter	Value	Unit
DO-41 	T_J	Operating Junction Temperature Range	- 40 to + 150	°C
	T_S	Storage Temperature Range	- 40 to +150	°C
	$R_{\theta JA}$	Thermal Resistance: Junction to Ambient	90	°C/W

Thyristor Surge Suppressors (TSS)

PXXXXLB Series @10/700μS , 4KV

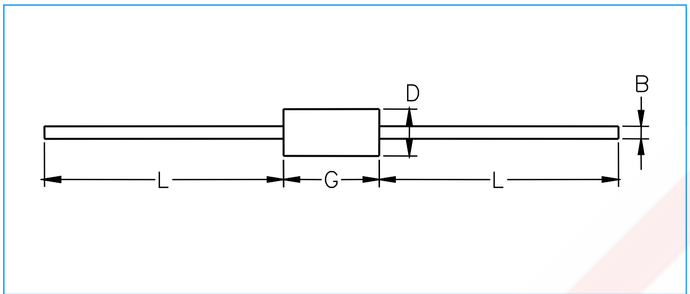
Features

- Low voltage overshoot
- Low on-state voltage
- Does not degrade surge capability after multiple surge events within limit
- Fails short circuit when surged in excess of ratings
- Low Capacitance



DO-15

Dimensions



Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
B	0.028	0.034	0.711	0.864
D	0.120	0.140	3.048	3.556
G	0.235	0.270	5.969	6.858
L	1.000		25.40	

Thyristor Surge Suppressors (TSS)

PXXXXLB Series @10/700μS , 4KV

Electrical Characteristics

Part Number	Marking	V_{DRM} @I_{DRM}=5μA	V_S @100V/μS	V_T @I_T=2.2A	I_S	I_T	I_H	C_0 @1MHz	
		V min	V max	V max	mA max	A max	mA min	pF min	pF max
P0080LB	P008LB	6	25	4	800	2.2	50	25	150
P0300LB	P03LB	25	40	4	800	2.2	50	15	140
P0640LB	P06LB	58	77	4	800	2.2	150	40	60
P0720LB	P07LB	65	88	4	800	2.2	150	35	60
P0900LB	P09LB	75	98	4	800	2.2	150	25	55
P1100LB	P11LB	90	130	4	800	2.2	150	30	50
P1300LB	P13LB	120	160	4	800	2.2	150	25	45
P1500LB	P15LB	140	180	4	800	2.2	150	25	40
P1800LB	P18LB	170	220	4	800	2.2	150	25	35
P2000LB	P20LB	180	220	4	800	2.2	150	20	35
P2300LB	P23LB	190	260	4	800	2.2	150	25	35
P2600LB	P26LB	220	300	4	800	2.2	150	20	35
P3100LB	P31LB	275	350	4	800	2.2	150	20	35
P3500LB	P35LB	320	400	4	800	2.2	150	20	35
P4000LB	P40LB	360	460	4	800	2.2	150	20	35
P4500LB	P45LB	400	540	4	800	2.2	150	20	35
P5000LB	P50LB	440	600	4	800	2.2	150	20	35

Notes:
- Absolute maximum ratings measured at T_A= 25°C (unless otherwise noted).
- Devices are bi-directional.

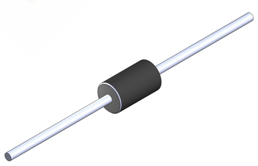
Surge Ratings

Series	2/10μS[1]	8/20μS[1]	10/160μS[1]	10/560μS[1]	10/1000μS[1]	5/310μS[1]	I_{TSM} 50/60 Hz	di/dt
	2/10μS[2]	1.2/50μS[2]	10/160μS[2]	10/560μS[2]	10/1000μS[2]	10/700μS[2]		
	A min	A min	A min	A min	A min	A min	A min	Amps/μs max
B	250	250	150	100	80	100	30	500

Notes:
1. Current waveform in μs
2. Voltage waveform in μs

- Peak pulse current rating (I_{PP}) is repetitive and guaranteed for the life of the product.
- I_{PP} ratings applicable over temperature range of -40°C to +85°C
- The device must initially be in thermal equilibrium with -40°C < T_J < +150°C

Thermal Considerations

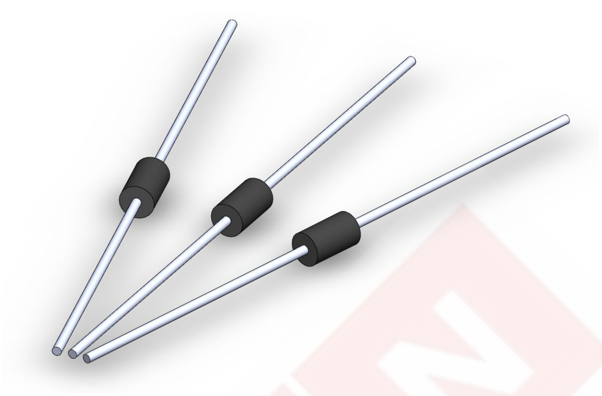
Package	Symbol	Parameter	Value	Unit
DO-15 	T_J	Operating Junction Temperature Range	- 40 to + 150	°C
	T_S	Storage Temperature Range	- 40 to +150	°C
	$R_{θJA}$	Thermal Resistance: Junction to Ambient	90	°C/W

Thyristor Surge Suppressors (TSS)

PXXXXLC Series @10/700μS , 6KV

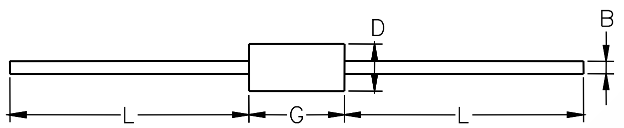
Features

- Low voltage overshoot
- Low on-state voltage
- Does not degrade surge capability after multiple surge events within limit
- Fails short circuit when surged in excess of ratings
- Low Capacitance



DO-27

Dimensions



Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
B	0.028	0.042	0.711	1.067
D	0.190	0.205	4.826	5.207
G	0.360	0.375	9.146	9.527
L	1.000		25.40	

Thyristor Surge Suppressors (TSS)

PXXXXLC Series @10/700µS , 6KV

Electrical Characteristics

Part Number	Marking	V_{DRM} @I_{DRM}=5µA	V_S @100V/µS	V_T @I_T=2.2A	I_S	I_T	I_H	C_0 @1MHz	
		V min	V max	V max	mA max	A max	mA min	pF min	pF max
P0080LC	P008LC	6	25	4	800	2.2	50	25	150
P0300LC	P03LC	25	40	4	800	2.2	50	15	140
P0640LC	P06LC	58	77	4	800	2.2	150	40	60
P0720LC	P07LC	65	88	4	800	2.2	150	35	60
P0900LC	P09LC	75	98	4	800	2.2	150	25	55
P1100LC	P11LC	90	130	4	800	2.2	150	30	50
P1300LC	P13LC	120	160	4	800	2.2	150	25	45
P1500LC	P15LC	140	180	4	800	2.2	150	25	40
P1800LC	P18LC	170	220	4	800	2.2	150	25	35
P2000LC	P20LC	180	220	4	800	2.2	150	20	35
P2300LC	P23LC	190	260	4	800	2.2	150	25	35
P2600LC	P26LC	220	300	4	800	2.2	150	20	35
P3100LC	P31LC	275	350	4	800	2.2	150	20	35
P3500LC	P35LC	320	400	4	800	2.2	150	20	35
P4000LC	P40LC	360	460	4	800	2.2	150	20	35
P4500LC	P45LC	400	540	4	800	2.2	150	20	35
P5000LC	P50LC	440	600	4	800	2.2	150	20	35

Notes:
- Absolute maximum ratings measured at T_A= 25°C (unless otherwise noted).
- Devices are bi-directional.

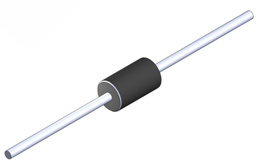
Surge Ratings

Series	2/10µS[1]	8/20µS[1]	10/160µS[1]	10/560µS[1]	10/1000µS[1]	5/310µS[1]	I_{TSM} 50/60 Hz	di/dt
	2/10µS[2]	1.2/50µS[2]	10/160µS[2]	10/560µS[2]	10/1000µS[2]	10/700µS[2]		
	A min	A min	A min	A min	A min	A min	A min	Amps/µs max
C	500	400	200	150	100	150	50	500

Notes:
1. Current waveform in µs
2. Voltage waveform in µs

- Peak pulse current rating (I_{PP}) is repetitive and guaranteed for the life of the product.
- I_{PP} ratings applicable over temperature range of -40°C to +85°C
- The device must initially be in thermal equilibrium with -40°C < T_J < +150°C

Thermal Considerations

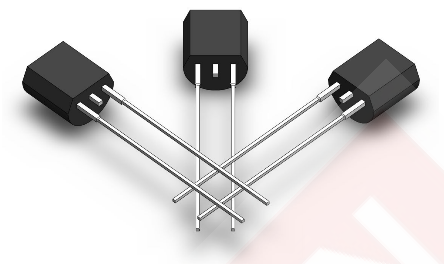
Package	Symbol	Parameter	Value	Unit
DO-27 	T_J	Operating Junction Temperature Range	- 40 to + 150	°C
	T_S	Storage Temperature Range	- 40 to +150	°C
	$R_{\theta JA}$	Thermal Resistance: Junction to Ambient	90	°C/W

Thyristor Surge Suppressors (TSS)

PXXXXEA Series @10/700μS , 2KV

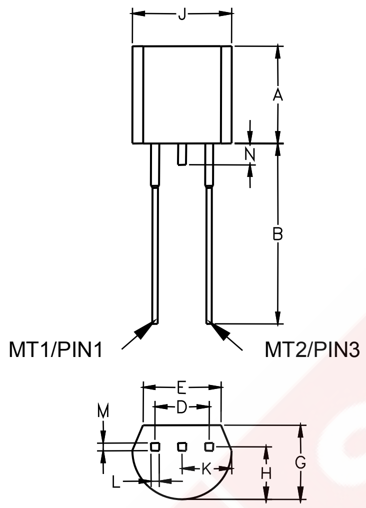
Features

- Low voltage overshoot
- Low on-state voltage
- Does not degrade surge capability after multiple surge events within limit
- Fails short circuit when surged in excess of ratings
- Low Capacitance



TO-92

Dimensions



The TO-92 is designed to meet mechanical standards as set forth in JEDEC publication number 95.

Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.176	0.196	4.47	4.98
B	0.500		12.70	
D	0.095	0.105	2.41	2.67
E	0.150		3.81	
G	0.135	0.145	3.43	3.68
H	0.088	0.096	2.23	2.44
J	0.176	0.186	4.47	4.73
K	0.088	0.096	2.23	2.44
L	0.013	0.019	0.33	0.48
M	0.013	0.017	0.33	0.43
N		0.060		1.52

All leads are insulated from case. Case is electrically non-conductive. (Rated at 1600 $V_{(AC)\ RMS}$ for one minute from leads to case over the operating temperature range.)

Mold flash shall not exceed 0.13 mm per side.

Thyristor Surge Suppressors (TSS)

PXXXXEA Series @10/700µS , 2KV

Electrical Characteristics

Part Number	Marking	V_{DRM} @I_{DRM}=5µA	V_S @100V/µS	V_T @I_T=2.2A	I_S	I_T	I_H	C_0 @1MHz	
		V min	V max	V max	mA max	A max	mA min	pF min	pF max
P0080EA	P0080EA	6	25	4	800	2.2	50	25	150
P0300EA	P0300EA	25	40	4	800	2.2	50	15	140
P0640EA	P0640EA	58	77	4	800	2.2	150	40	60
P0720EA	P0720EA	65	88	4	800	2.2	150	35	60
P0900EA	P0900EA	75	98	4	800	2.2	150	25	55
P1100EA	P1100EA	90	130	4	800	2.2	150	30	50
P1300EA	P1300EA	120	160	4	800	2.2	150	25	45
P1500EA	P1500EA	140	180	4	800	2.2	150	25	40
P1800EA	P1800EA	170	220	4	800	2.2	150	25	35
P2000EA	P2000EA	180	220	4	800	2.2	150	20	35
P2300EA	P2300EA	190	260	4	800	2.2	150	25	35
P2600EA	P2600EA	220	300	4	800	2.2	150	20	35
P3100EA	P3100EA	275	350	4	800	2.2	150	20	35
P3500EA	P3500EA	320	400	4	800	2.2	150	20	35
P4000EA	P4000EA	360	460	4	800	2.2	150	20	35
P4500EA	P4500EA	400	540	4	800	2.2	150	20	35
P5000EA	P5000EA	440	600	4	800	2.2	150	20	35

Notes:

- Absolute maximum ratings measured at T_A= 25°C (unless otherwise noted).
- Devices are bi-directional.

Surge Ratings

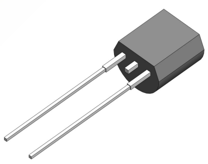
Series	2/10µS[1]	8/20µS[1]	10/160µS[1]	10/560µS[1]	10/1000µS[1]	5/310µS[1]	I_{TSM} 50/60 Hz	di/dt
	2/10µS[2]	1.2/50µS[2]	10/160µS[2]	10/560µS[2]	10/1000µS[2]	10/700µS[2]		
	A min	A min	A min	A min	A min	A min	A min	Amps/µs max
A	150	150	90	50	45	50	20	500

Notes:

1. Current waveform in µs
2. Voltage waveform in µs

- Peak pulse current rating (I_{PP}) is repetitive and guaranteed for the life of the product.
- I_{PP} ratings applicable over temperature range of -40ºC to +85ºC
- The device must initially be in thermal equilibrium with -40°C < T_J < +150°C

Thermal Considerations

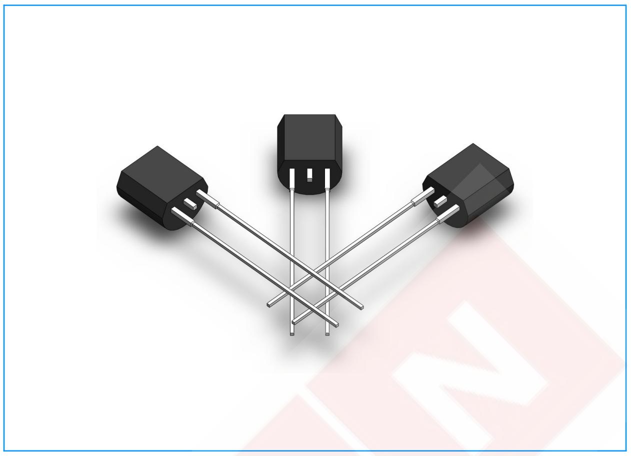
Package	Symbol	Parameter	Value	Unit
TO-92 	T_J	Operating Junction Temperature Range	- 40 to + 150	°C
	T_S	Storage Temperature Range	- 40 to +150	°C
	$R_{θJA}$	Thermal Resistance: Junction to Ambient	90	°C/W

Thyristor Surge Suppressors (TSS)

PXXXXEB Series @10/700μS , 4KV

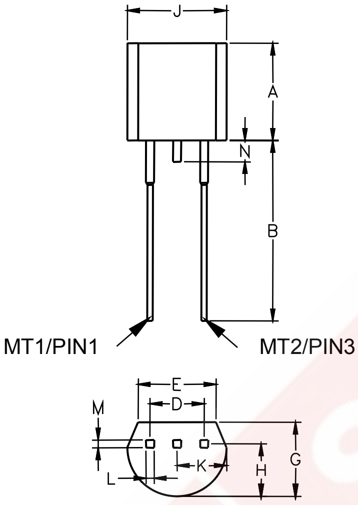
Features

- Low voltage overshoot
- Low on-state voltage
- Does not degrade surge capability after multiple surge events within limit
- Fails short circuit when surged in excess of ratings
- Low Capacitance



TO-92

Dimensions



The TO-92 is designed to meet mechanical standards as set forth in JEDEC publication number 95.

Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.176	0.196	4.47	4.98
B	0.500		12.70	
D	0.095	0.105	2.41	2.67
E	0.150		3.81	
G	0.135	0.145	3.43	3.68
H	0.088	0.096	2.23	2.44
J	0.176	0.186	4.47	4.73
K	0.088	0.096	2.23	2.44
L	0.013	0.019	0.33	0.48
M	0.013	0.017	0.33	0.43
N		0.060		1.52

All leads are insulated from case. Case is electrically non-conductive. (Rated at 1600 $V_{(AC)\ RMS}$ for one minute from leads to case over the operating temperature range.)

Mold flash shall not exceed 0.13 mm per side.

Thyristor Surge Suppressors (TSS)

PXXXXEB Series @10/700μS , 4KV

Electrical Characteristics

Part Number	Marking	V_{DRM} @I_{DRM}=5μA	V_S @100V/μS	V_T @I_T=2.2A	I_S	I_T	I_H	C_0 @1MHz	
		V min	V max	V max	mA max	A max	mA min	pF min	pF max
P0080EB	P0080EB	6	25	4	800	2.2	50	25	150
P0300EB	P0300EB	25	40	4	800	2.2	50	15	140
P0640EB	P0640EB	58	77	4	800	2.2	150	40	60
P0720EB	P0720EB	65	88	4	800	2.2	150	35	60
P0900EB	P0900EB	75	98	4	800	2.2	150	25	55
P1100EB	P1100EB	90	130	4	800	2.2	150	30	50
P1300EB	P1300EB	120	160	4	800	2.2	150	25	45
P1500EB	P1500EB	140	180	4	800	2.2	150	25	40
P1800EB	P1800EB	170	220	4	800	2.2	150	25	35
P2000EB	P2000EB	180	220	4	800	2.2	150	20	35
P2300EB	P2300EB	190	260	4	800	2.2	150	25	35
P2600EB	P2600EB	220	300	4	800	2.2	150	20	35
P3100EB	P3100EB	275	350	4	800	2.2	150	20	35
P3500EB	P3500EB	320	400	4	800	2.2	150	20	35
P4000EB	P4000EB	360	460	4	800	2.2	150	20	35
P4500EB	P4500EB	400	540	4	800	2.2	150	20	35
P5000EB	P5000EB	440	600	4	800	2.2	150	20	35

Notes:
- Absolute maximum ratings measured at T_A= 25°C (unless otherwise noted).
- Devices are bi-directional.

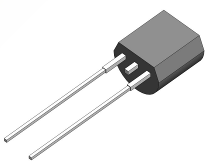
Surge Ratings

Series	2/10μS[1]	8/20μS[1]	10/160μS[1]	10/560μS[1]	10/1000μS[1]	5/310μS[1]	I_{TSM} 50/60 Hz	di/dt
	2/10μS[2]	1.2/50μS[2]	10/160μS[2]	10/560μS[2]	10/1000μS[2]	10/700μS[2]		
	A min	A min	A min	A min	A min	A min	A min	Amps/μs max
B	250	250	150	100	80	100	30	500

Notes:
1. Current waveform in μs
2. Voltage waveform in μs

- Peak pulse current rating (I_{PP}) is repetitive and guaranteed for the life of the product.
- I_{PP} ratings applicable over temperature range of -40°C to +85°C
- The device must initially be in thermal equilibrium with -40°C < T_J < +150°C

Thermal Considerations

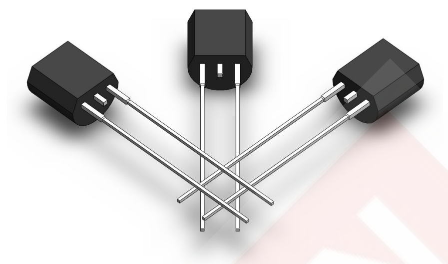
Package	Symbol	Parameter	Value	Unit
TO-92 	T_J	Operating Junction Temperature Range	- 40 to + 150	°C
	T_S	Storage Temperature Range	- 40 to +150	°C
	$R_{θJA}$	Thermal Resistance: Junction to Ambient	90	°C/W

Thyristor Surge Suppressors (TSS)

PXXXXEC Series @10/700μS , 6KV

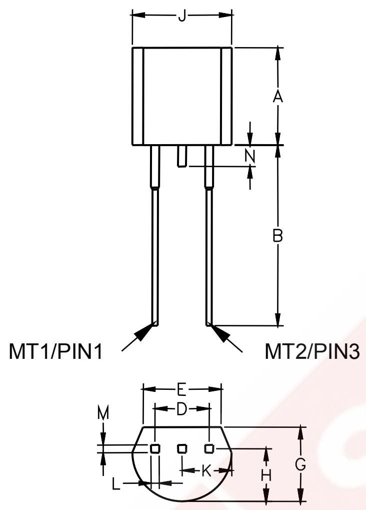
Features

- Low voltage overshoot
- Low on-state voltage
- Does not degrade surge capability after multiple surge events within limit
- Fails short circuit when surged in excess of ratings
- Low Capacitance



TO-92

Dimensions



The TO-92 is designed to meet mechanical standards as set forth in JEDEC publication number 95.

Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.176	0.196	4.47	4.98
B	0.500		12.70	
D	0.095	0.105	2.41	2.67
E	0.150		3.81	
G	0.135	0.145	3.43	3.68
H	0.088	0.096	2.23	2.44
J	0.176	0.186	4.47	4.73
K	0.088	0.096	2.23	2.44
L	0.013	0.019	0.33	0.48
M	0.013	0.017	0.33	0.43
N		0.060		1.52

All leads are insulated from case. Case is electrically non-conductive. (Rated at 1600 $V_{(AC)\ RMS}$ for one minute from leads to case over the operating temperature range.)

Mold flash shall not exceed 0.13 mm per side.

Thyristor Surge Suppressors (TSS)

PXXXXEC Series @10/700μS , 6KV

Electrical Characteristics

Part Number	Marking	V_{DRM} @I_{DRM}=5μA	V_S @100V/μS	V_T @I_T=2.2A	I_S	I_T	I_H	C_0 @1MHz	
		V min	V max	V max	mA max	A max	mA min	pF min	pF max
P0080EC	P0080EC	6	25	4	800	2.2	50	25	150
P0300EC	P0300EC	25	40	4	800	2.2	50	15	140
P0640EC	P0640EC	58	77	4	800	2.2	150	40	60
P0720EC	P0720EC	65	88	4	800	2.2	150	35	60
P0900EC	P0900EC	75	98	4	800	2.2	150	25	55
P1100EC	P1100EC	90	130	4	800	2.2	150	30	50
P1300EC	P1300EC	120	160	4	800	2.2	150	25	45
P1500EC	P1500EC	140	180	4	800	2.2	150	25	40
P1800EC	P1800EC	170	220	4	800	2.2	150	25	35
P2000EC	P2000EC	180	220	4	800	2.2	150	20	35
P2300EC	P2300EC	190	260	4	800	2.2	150	25	35
P2600EC	P2600EC	220	300	4	800	2.2	150	20	35
P3100EC	P3100EC	275	350	4	800	2.2	150	20	35
P3500EC	P3500EC	320	400	4	800	2.2	150	20	35
P4000EC	P4000EC	360	460	4	800	2.2	150	20	35
P4500EC	P4500EC	400	540	4	800	2.2	150	20	35
P5000EC	P5000EC	440	600	4	800	2.2	150	20	35

Notes:
- Absolute maximum ratings measured at T_A= 25°C (unless otherwise noted).
- Devices are bi-directional.

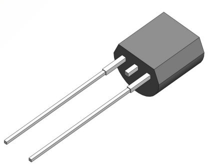
Surge Ratings

Series	2/10μS[1]	8/20μS[1]	10/160μS[1]	10/560μS[1]	10/1000μS[1]	5/310μS[1]	I_{TSM} 50/60 Hz	di/dt
	2/10μS[2]	1.2/50μS[2]	10/160μS[2]	10/560μS[2]	10/1000μS[2]	10/700μS[2]		
	A min	A min	A min	A min	A min	A min	A min	Amps/μs max
C	500	400	200	150	100	150	50	500

Notes:
1. Current waveform in μs
2. Voltage waveform in μs

- Peak pulse current rating (I_{PP}) is repetitive and guaranteed for the life of the product.
- I_{PP} ratings applicable over temperature range of -40°C to +85°C
- The device must initially be in thermal equilibrium with -40°C < T_J < +150°C

Thermal Considerations

Package	Symbol	Parameter	Value	Unit
TO-92 	T_J	Operating Junction Temperature Range	- 40 to + 150	°C
	T_S	Storage Temperature Range	- 40 to +150	°C
	$R_{\theta JA}$	Thermal Resistance: Junction to Ambient	90	°C/W