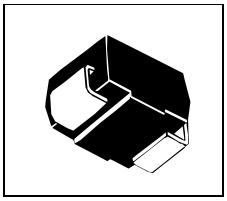
2 Data Sheets

Presented in this chapter are electrical parameters for the SIDACtor, Teccor's line of solid state over voltage protection devices.

Complete specifications for the following product families are presented on the following pages:

DO-214 SIDACtor



The DO-214 SIDACtor is a solid state protection device designed for telecommunications applications such as modems, line cards, fax machines, etc.

The SIDACtor is used to help equipment meet various regulatory requirements including: GR 1089, ITU K.20 & K.21, IEC 950, UL 1459 & 1950 and FCC Part 68.

Part Number*	V_{DRM} Volts	V_S Volts	V_T Volts	I_{DRM} µAmps	I_S mAmps	I_T Amps	I_H mAmps	C_O pF
P0080S_	6	25	5	5	800	1	50	100
P0300S_	25	40	5	5	800	1	50	110
P0640S_	58	77	5	5	800	1	150	50
P0720S_	65	88	5	5	800	1	150	50
P0900S_	75	98	5	5	800	1	150	50
P1100S_	90	130	5	5	800	1	150	40
P1300S_	120	160	5	5	800	1	150	40
P1500S_	140	180	5	5	800	1	150	40
P1800S_	160	220	5	5	800	1	150	30
P2300S_	190	260	5	5	800	1	150	30
P2600S_	220	300	5	5	800	1	150	30
P3100S_	275	350	5	5	800	1	150	30
P3500S_	320	400	5	5	800	1	150	30

* For individual “SA”, “SB” and “SC” surge ratings, see table below. (P0080SB is not available.)

Notes:

- All measurements are made at an ambient temperature of 25°C. I_{PP} applies to -40°C through +85°C temperature range.
- I_{PP} is a repetitive surge rating and is guaranteed for the life of the product.
- Listed SIDACtors are bi-directional. All electrical parameters & surge ratings apply to forward and reverse polarities.
- V_{DRM} is measured at I_{DRM}.
- V_S is measured at 100V/µs.
- Special voltage (V_S & V_{DRM}) and holding current (I_H) requirements are available upon request.
- Off-state capacitance is measured at 1MHz with a 2 volt bias and is a typical value for “SA” and “SB” product. “SC” capacitance is approximately 2x the listed value.

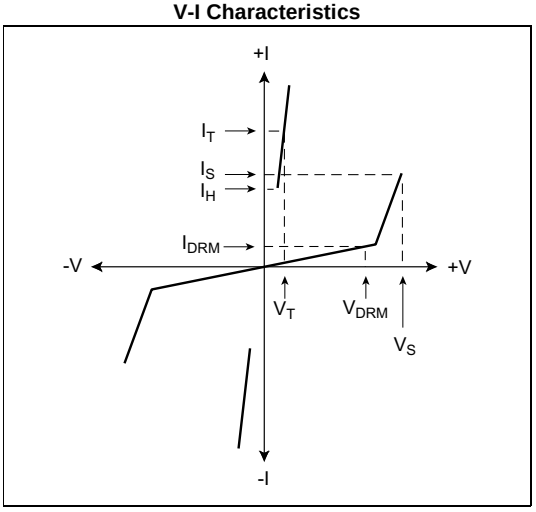
Surge Ratings

Series	I_{PP} 2x10µs Amps	I_{PP} 8x20µs Amps	I_{PP} 10x160µs Amps	I_{PP} 10x560µs Amps	I_{PP} 10x1000µs Amps	I_{TSM} 60Hz Amps	dI/dt Amps/µs
A		150	100	50		20	500
B		250	150	100		30	500
C	500	400	200		100	60	500

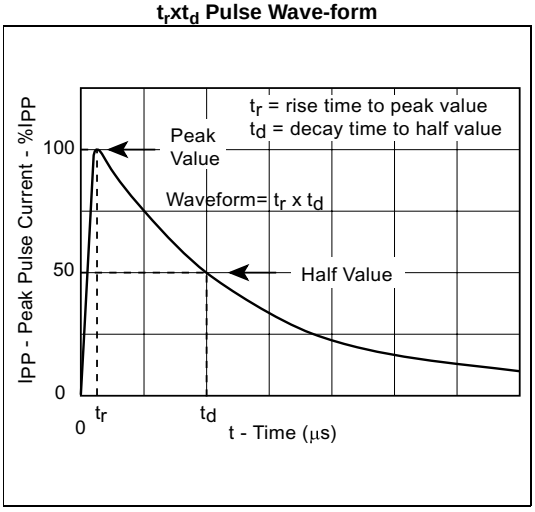
Thermal Considerations

Package	Symbol	Parameter	Value	Unit
DO-214	T_j	Junction Temperature Range	-40 to +150	°C
	T_s	Storage Temperature Range	-65 to +150	°C
	T_c	Maximum Case Temperature	+75	°C
	$R_{\theta jc}$	Thermal Resistance: junction to case	+28	°C/W
	$R_{\theta ja}$	Thermal Resistance: junction to ambient	+90	°C/W

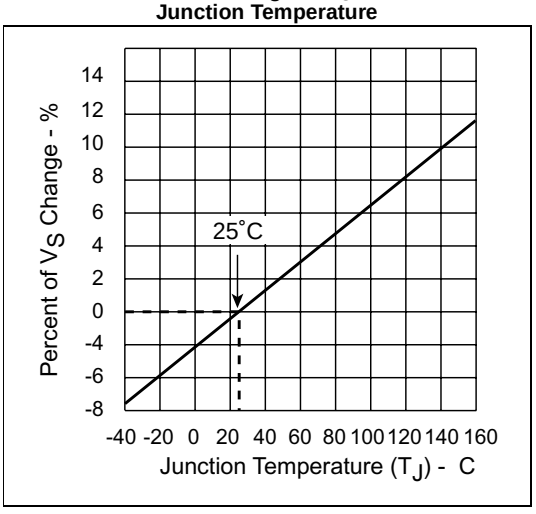
V-I Characteristics



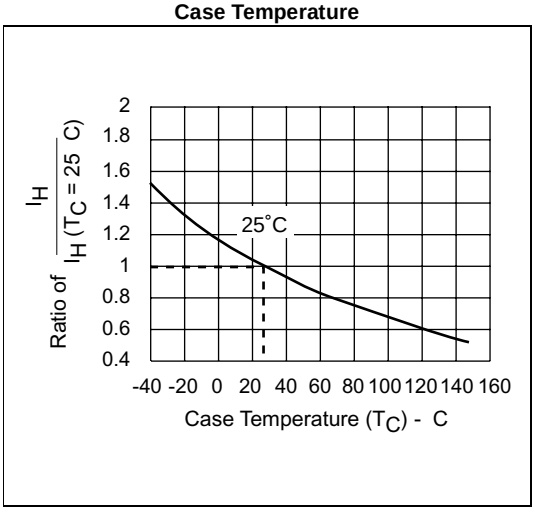
t_rxt_d Pulse Wave-form



Normalized V_S Change vs. Junction Temperature



Normalized DC Holding Current vs. Case Temperature



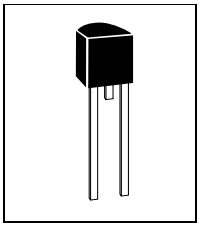
DO-214 SIDACtor

Package Symbolization

Standardized Part Number	Symbolized Part Number	Standardized Part Number	Symbolized Part Number
P0080SA	P_8A	P1800SA	P18A
P0080SB	P_8B	P1800SB	P18B
P0080SC	P_8C	P1800SC	P18C
P0300SA	P03A	P2000SA	P20A
P0300SB	P03B	P2000SB	P20B
P0300SC	P03C	P2000SC	P20C
P0640SA	P06A	P2300SA	P23A
P0640SB	P06B	P2300SB	P23B
P0640SC	P06C	P2300SC	P23C
P0641SA	P61A	P2600SA	P26A
P0641SC	P61C	P2600SB	P26B
P0720SA	P07A	P2600SC	P26C
P0720SB	P07B	P3100SA	P31A
P0720SC	P07C	P3100SB	P31B
P0721SA	P71A	P3100SC	P31C
P0721SC	P71C	P3500SA	P35A
P0900SA	P09A	P3500SB	P35B
P0900SB	P09B	P3500SC	P35C
P0900SC	P09C	B1100CA	B10A
P1100SA	P11A	B1100CC	B10C
P1100SB	P11B	B1160CA	B60A
P1100SC	P11C	B1160CC	B60C
P1200SA	P12A	B1200CA	B20A
P1200SB	P12B	B1200CC	B20C
P1200SC	P12C	B2100CA	B21A
P1300SA	P13A	B2100CC	B21C
P1300SB	P13B	B2160CA	B26A
P1300SC	P13C	B2160CC	B26C
P1500SA	P15A	B2200CA	B22A
P1500SB	P15B	B2200CC	B22C
P1500SC	P15C		

Note: On the DO-214 package, date code is located below the Symbolized Part Number. TO-92 and TO-220 devices have full part numbers and a date code printed on the part.

TO-92 SIDACtor



The TO-92 SIDACtor is a solid state protection device designed for telecommunications applications such as modems, line cards, fax machines, etc.

The SIDACtor is used to help equipment meet various regulatory requirements including: GR 1089, ITU K.20 & K.21, IEC 950, UL 1459 & 1950 and FCC Part 68.

Electrical Parameters

Part Number*	V_{DRM} Volts	V_S Volts	V_T Volts	I_{DRM} µAmps	I_S mAmps	I_T Amps	I_H mAmps	C_O pF
P0080E_	6	25	5	5	800	1	50	100
P0300E_	25	40	5	5	800	1	50	110
P0640E_	58	77	5	5	800	1	150	50
P0720E_	65	88	5	5	800	1	150	50
P0900E_	75	98	5	5	800	1	150	50
P1100E_	90	130	5	5	800	1	150	40
P1300E_	120	160	5	5	800	1	150	40
P1500E_	140	180	5	5	800	1	150	40
P1800E_	160	220	5	5	800	1	150	30
P2300E_	190	260	5	5	800	1	150	30
P2600E_	220	300	5	5	800	1	150	30
P3100E_	275	350	5	5	800	1	150	30
P3500E_	320	400	5	5	800	1	150	30

* For individual “EA”, “EB” and “EC” surge ratings, see table below. (P0080EB is not available.)

Notes:

- All measurements are made at an ambient temperature of 25°C. I_{PP} applies to -40°C through +85°C temperature range.
- I_{PP} is a repetitive surge rating and is guaranteed for the life of the product.
- Listed SIDACtors are bi-directional. All electrical parameters & surge ratings apply to forward and reverse polarities.
- V_{DRM} is measured at I_{DRM}.
- V_S is measured at 100V/µs.
- Special voltage (V_S & V_{DRM}) and holding current (I_H) requirements are available upon request.
- Off-state capacitance is measured at 1MHz with a 2 volt bias and is a typical value for “EA” and “EB” product. “EC” capacitance is approximately 2x the listed value.

Surge Ratings

Series	I_{PP} 2x10µs Amps	I_{PP} 8x20µs Amps	I_{PP} 10x160µs Amps	I_{PP} 10x560µs Amps	I_{PP} 10x1000µs Amps	I_{TSM} 60Hz Amps	dI/dt Amps/µs
A		150	100	50		20	500
B		250	150	100		30	500
C	500	400	200		100	60	500

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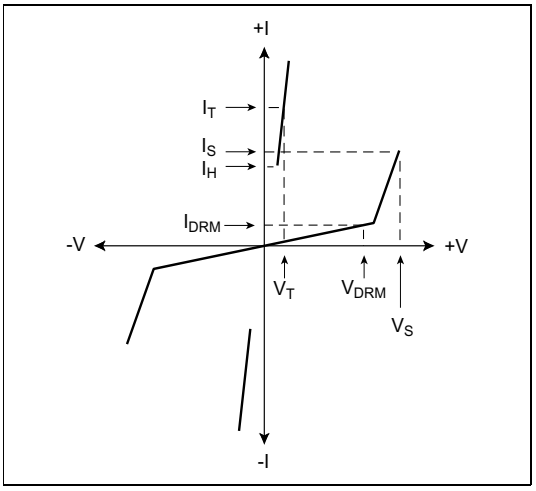
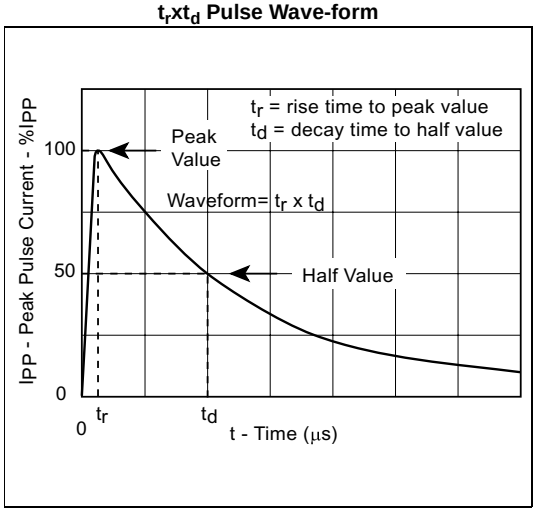
Thermal Considerations

Package	Symbol	Parameter	Value	Unit
TO-92	T_j	Junction Temperature Range	-40 to +150	°C
	T_s	Storage Temperature Range	-65 to +150	°C
	T_c	Maximum Case Temperature	+110	°C
	$R_{\theta jc}$	Thermal Resistance: junction to case	+28	°C/W
	$R_{\theta ja}$	Thermal Resistance: junction to ambient	+90	°C/W

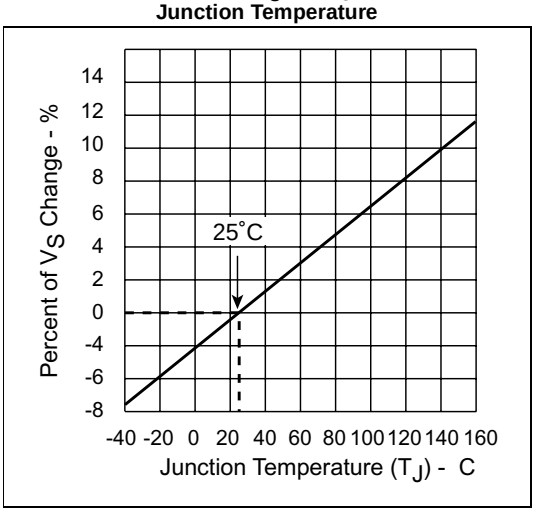
V-I Characteristics



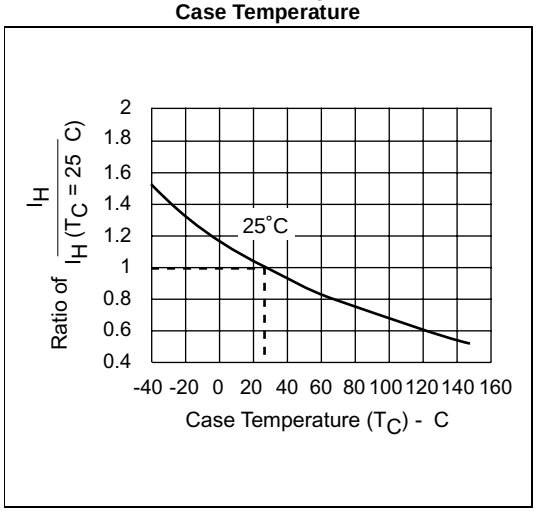
t_rxt_d Pulse Wave-form



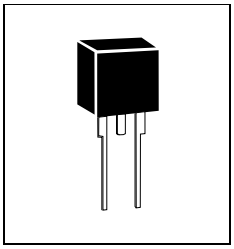
Normalized V_S Change vs. Junction Temperature



Normalized DC Holding Current vs. Case Temperature



TO-220 Type 61 SIDACtor



The modified TO-220 Type 61 SIDACtor is a solid state protection device designed for telecommunications applications that do not reference earth ground.

The SIDACtor is used to help equipment meet various regulatory requirements including: GR 1089, ITU K.20 & K.21, IEC 950, UL 1459 & 1950 and FCC Part 68.

Electrical Parameters

Part Number	V_{DRM} Volts	V_S Volts	V_T Volts	I_{DRM} µAmps	I_S mAmps	I_T Amps	I_H mAmps	C_O pF
P2000AA61	180	220	5	5	800	1	150	30
P2200AA61	200	240	5	5	800	1	150	30
P2400AA61	220	260	5	5	800	1	150	30
P2500AA61	240	290	5	5	800	1	150	30
P3000AA61	270	330	5	5	800	1	150	30
P3300AA61	300	360	5	5	800	1	150	30

Notes:

- All measurements are made at an ambient temperature of 25°C. I_{PP} applies to -40°C through +85°C temperature range.
- I_{PP} is a repetitive surge rating and is guaranteed for the life of the product.
- Listed SIDACtors are bi-directional. All electrical parameters & surge ratings apply to forward and reverse polarities.
- V_{DRM} is measured at I_{DRM}.
- V_S is measured at 100V/µs.
- Special voltage (V_S & V_{DRM}) and holding current (I_H) requirements are available upon request.
- Off-state capacitance is measured at 1MHz with a 2 volt bias and is a typical value.

Surge Ratings

Series	I_{PP} 0.2x310µs Amps	I_{PP} 2x10µs Amps	I_{PP} 8x20µs Amps	I_{PP} 10x160µs Amps	I_{PP} 10x560µs Amps	I_{PP} 5x320µs Amps	I_{PP} 10x1000µs Amps	I_{TSM} 60Hz Amps	dI/dt Amps/µs
A	20	200	150	100	50	75	50	20	500

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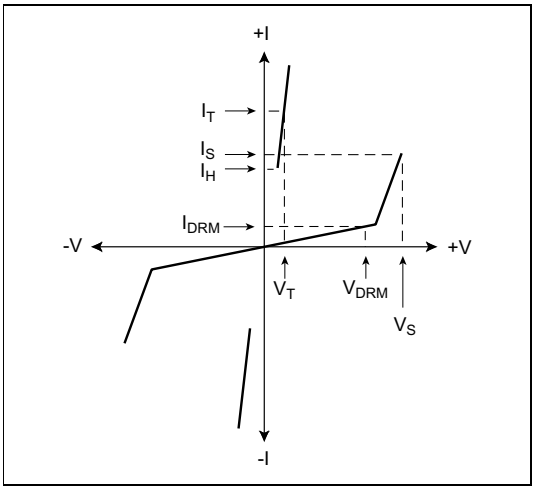
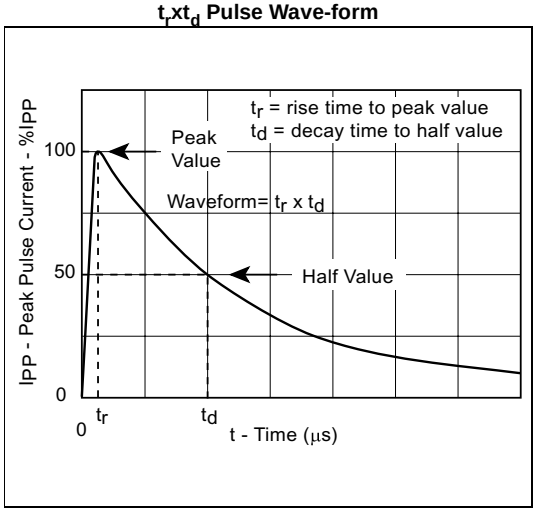
Thermal Considerations

Package	Symbol	Parameter	Value	Unit
Modified TO-220	T_j	Junction Temperature Range	-40 to +150	°C
	T_s	Storage Temperature Range	-65 to +150	°C
	T_c	Maximum Case Temperature	+115	°C
	$R_{\theta jc}$	Thermal Resistance: junction to case	+12	°C/W
	$R_{\theta ja}$	Thermal Resistance: junction to ambient	+50	°C/W

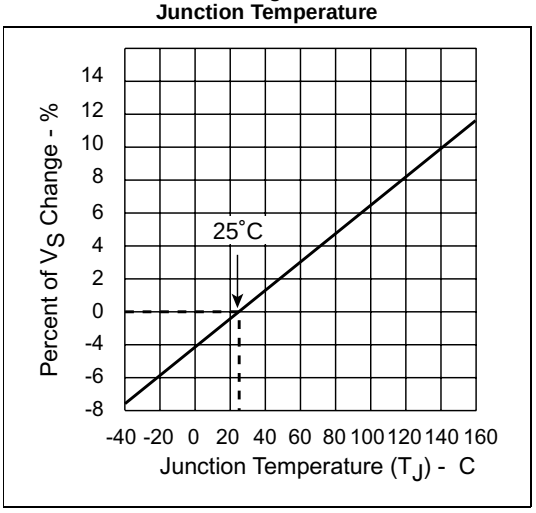
V-I Characteristics



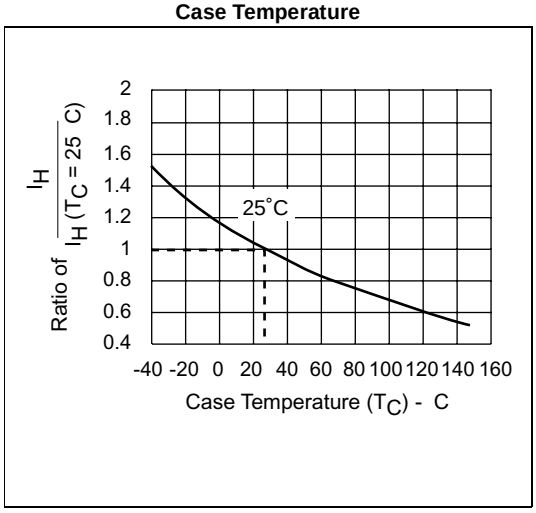
t_rxt_d Pulse Wave-form



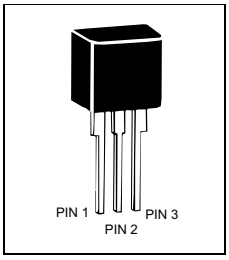
Normalized V_S Change vs. Junction Temperature



Normalized DC Holding Current vs. Case Temperature



Two Chip TO-220 SIDACtor



The two chip modified TO-220 SIDACtor is a solid state protection device designed for telecommunications applications that reference Tip and Ring to earth ground but do not require balanced protection.

The SIDACtor is used to help meet various regulatory requirements including: GR 1089, ITU K.20 & K.21, IEC 950, UL 1459 & 1950 and FCC Part 68.

Electrical Parameters

Part Number*	V_{DRM} Volts pins 1-2, 3-2	V_S Volts	V_{DRM} Volts pins 1-3	V_S Volts	V_T Volts	I_{DRM} µAmps	I_S mAmps	I_T Amps	I_H mAmps	C_O pF
P0602A_	25	40	50	80	5	5	800	1	50	110
P1402A_	58	77	116	154	5	5	800	1	150	50
P1602A_	65	95	130	190	5	5	800	1	150	50
P2202A_	90	130	180	260	5	5	800	1	150	40
P2702A_	120	160	240	320	5	5	800	1	150	40
P3002A_	140	180	280	360	5	5	800	1	150	40
P3602A_	160	220	320	440	5	5	800	1	150	40
P4202A_	190	250	380	500	5	5	800	1	150	30
P4802A_	220	300	440	600	5	5	800	1	150	30
P6002A_	275	350	550	700	5	5	800	1	150	30

* For individual “AA”, “AB” and “AC” surge ratings, see table below.

Notes:

- All measurements are made at an ambient temperature of 25°C. I_{PP} applies to -40°C through +85°C temperature range.
- I_{PP} is a repetitive surge rating and is guaranteed for the life of the product.
- Listed SIDACtors are bi-directional. All electrical parameters & surge ratings apply to forward and reverse polarities.
- V_{DRM} is measured at I_{DRM}.
- V_S is measured at 100V/µs.
- Special voltage (V_S & V_{DRM}) and holding current (I_H) requirements are available upon request.
- Off-state capacitance is measured between PINS 1-2 and 3-2 at 1MHz with a 2 volt bias and is a typical value for “AA” and “AB” product. “AC” capacitance is approximately 2x the listed value.

Surge Ratings

Series	I_{PP} 2x10µs Amps	I_{PP} 8x20µs Amps	I_{PP} 10x160µs Amps	I_{PP} 10x560µs Amps	I_{PP} 10x1000µs Amps	I_{TSM} 60Hz Amps	dI/dt Amps/µs
A		150	100	50		20	500
B		250	150	100		30	500
C	500	400	200		100	60	500

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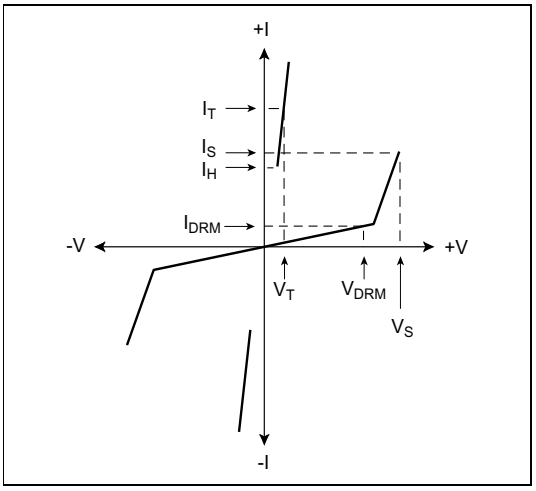
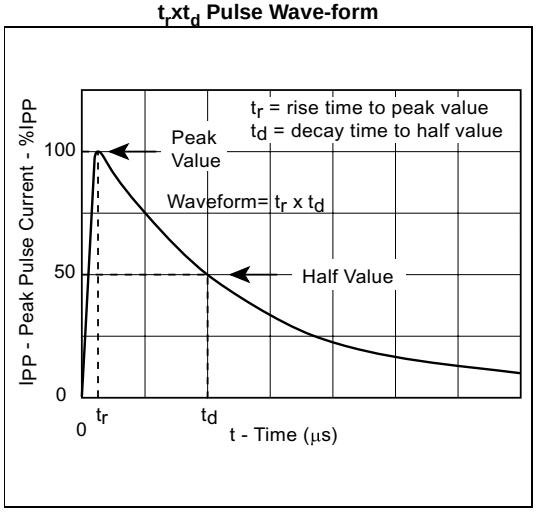
Thermal Considerations

Package	Symbol	Parameter	Value	Unit
Modified TO-220	T_j	Junction Temperature Range	-40 to +150	°C
	T_s	Storage Temperature Range	-65 to +150	°C
	T_c	Maximum Case Temperature	+115	°C
	$R_{\theta jc}$	Thermal Resistance: junction to case	+12	°C/W
	$R_{\theta ja}$	Thermal Resistance: junction to ambient	+50	°C/W

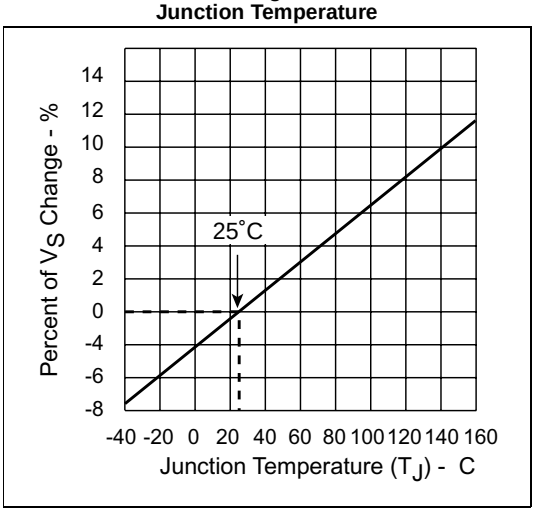
V-I Characteristics



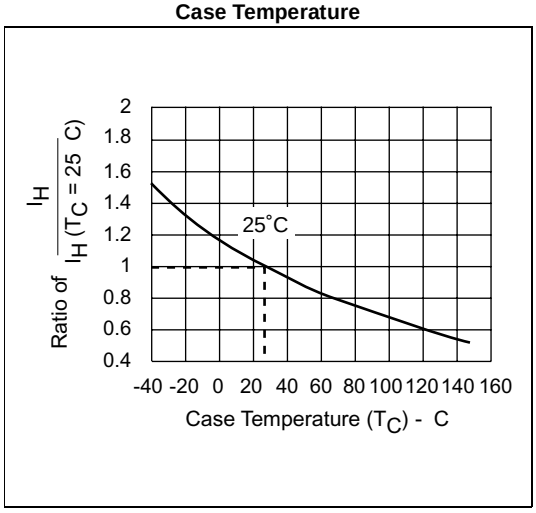
t_rxt_d Pulse Wave-form



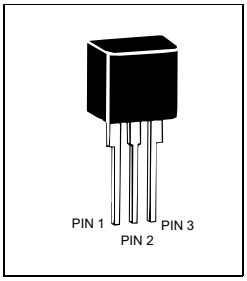
Normalized V_S Change vs. Junction Temperature



Normalized DC Holding Current vs. Case Temperature



Balanced Three Chip TO-220 SIDACtor



The three chip modified TO-220 SIDACtor is a balanced solid state protection device designed for telecommunications systems that reference Tip and Ring to earth ground. Applications include any piece of transmission equipment that requires balanced protection.

The SIDACtor is used to help equipment meet various regulatory requirements including: GR 1089, ITU K.20 & K.21, IEC 950, UL 1459 & 1950 and FCC Part 68.

Electrical Parameters

Part Number*	V_{DRM} Volts pins 1-2, 3-2	V_S Volts pins 1-2, 3-2	V_{DRM} Volts pins 1-3	V_S Volts pins 1-3	V_T Volts	I_{DRM} µAmps	I_S mAmps	I_T Amps	I_H mAmps	C_O pF
P1553A_	130	180	130	180	10	5	800	1	150	40
P1803A_	150	210	150	210	10	5	800	1	150	40
P2103A_	170	250	170	250	10	5	800	1	150	40
P2353A_	200	270	200	270	10	5	800	1	150	40
P2703A_	230	300	230	300	10	5	800	1	150	30
P3203A_	270	350	270	350	10	5	800	1	150	30
P3403A_	300	400	300	400	10	5	800	1	150	30
P5103A_	420	600	420	600	10	5	800	1	150	30

* For individual “AA”, “AB” and “AC” surge ratings, see table below.

Notes:

- All measurements are made at an ambient temperature of 25°C. I_{PP} applies to -40°C through +85°C temperature range.
- I_{PP} is a repetitive surge rating and is guaranteed for the life of the product.
- Listed SIDACtors are bi-directional. All electrical parameters & surge ratings apply to forward and reverse polarities.
- V_{DRM} is measured at I_{DRM}.
- V_S is measured at 100V/µs.
- Special voltage (V_S & V_{DRM}) and holding current (I_H) requirements are available upon request.
- Off-state capacitance is measured between (Pin 1-2 and 3-2) at 1MHz with a 2 volt bias and is a typical value for “AA” and “AB” product. “AC” capacitance is approximately 2x the listed value.
- Designed to meet balance requirements of GTS 8700 and GR 974.

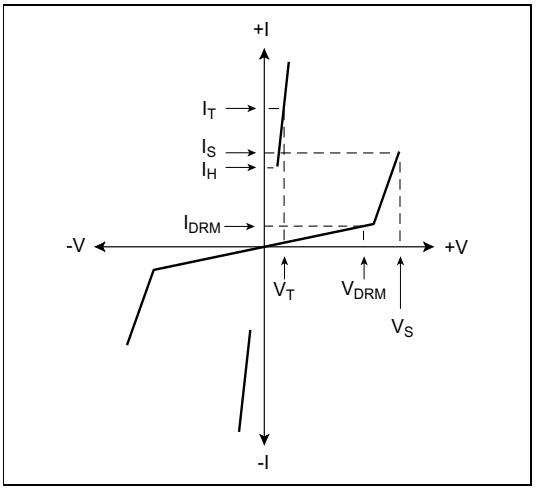
Surge Ratings

Series	I_{PP} 2x10µs Amps	I_{PP} 8x20µs Amps	I_{PP} 10x160µs Amps	I_{PP} 10x560µs Amps	I_{PP} 10x1000µs Amps	I_{TSM} 60Hz Amps	dI/dt Amps/µs
A		150	100	50		20	500
B		250	150	100		30	500
C	500	400	200		100	60	500

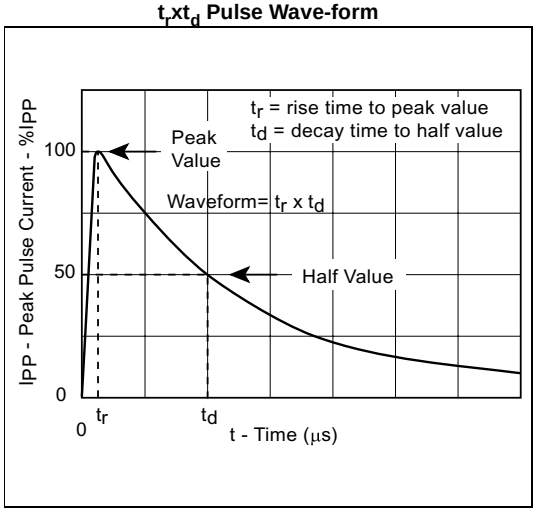
Thermal Considerations

Package	Symbol	Parameter	Value	Unit
Modified TO-220	T_j	Junction Temperature Range	-40 to +150	°C
	T_s	Storage Temperature Range	-65 to +150	°C
	T_c	Maximum Case Temperature	+115	°C
	$R_{\theta jc}$	Thermal Resistance: junction to case	+12	°C/W
	$R_{\theta ja}$	Thermal Resistance: junction to ambient	+50	°C/W

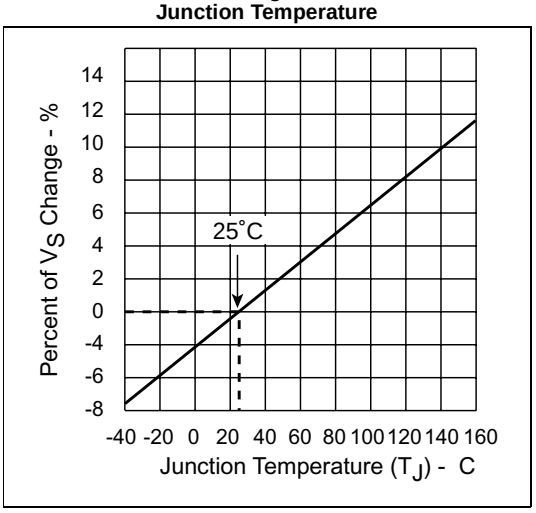
V-I Characteristics



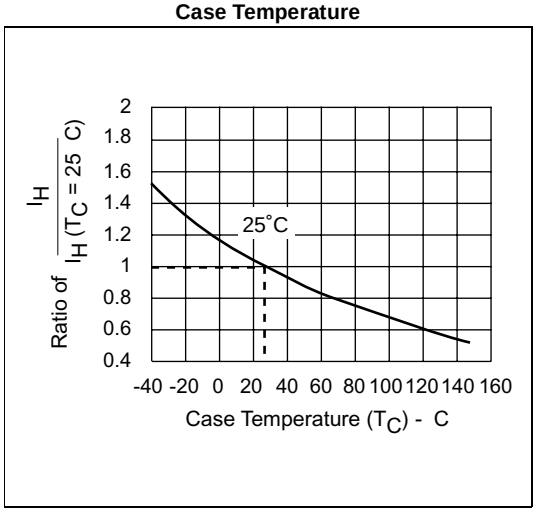
t_rxt_d Pulse Wave-form



Normalized V_S Change vs. Junction Temperature



Normalized DC Holding Current vs. Case Temperature

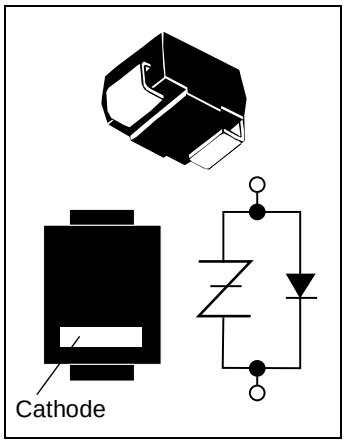


Subscriber Line Interface Circuit (SLIC) Protection (DO-214)

The P0641S_ and the P0721S_ are unidirectional solid state protection devices constructed with a SIDACtor and integrated diode.

Used to protect SLIC IC's from being damaged during transient voltage activity, the P0641S_ and P0721S_ help line cards meet various regulatory requirements including: GR 1089, ITU K.20 & K.21, IEC 950, UL 1459 & 1950 and FCC Part 68.

For specific design criteria see page 2-14.



Electrical Parameters

Part Number*	V_{DRM} Volts	V_S Volts	V_T Volts	V_F Volts	I_{DRM} µAmps	I_S mAmps	I_T Amps	I_H mAmps	C_{OP}F
P0641S_	58	77	5	5	5	800	1	150	70
P0721S_	65	88	5	5	5	800	1	150	70

* For individual "SA" and "SC" surge ratings, see table below.

Notes:

- All measurements are made at an ambient temperature of 25°C. I_{PP} applies to -40°C through +85°C temperature range.
- I_{PP} is a repetitive surge rating and is guaranteed for the life of the product.
- V_{DRM} is measured at I_{DRM}.
- V_S and V_F are measured at 100V/µs.
- Special voltage (V_S & V_{DRM}) and holding current (I_H) requirements are available upon request.
- Off-state capacitance is measured at 1MHz with a 2 volt bias and is a typical value for "SA" product. "SC" capacitance is approximately 2x the listed value.

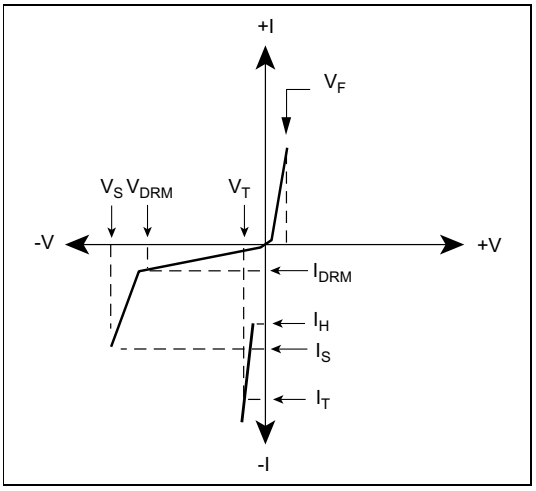
Surge Ratings (Preliminary Data)

Series	I_{PP} 2x10µs Amps	I_{PP} 8x20µs Amps	I_{PP} 10x160µs Amps	I_{PP} 10x560µs Amps	I_{PP} 10x1000µs Amps	I_{TSM} 60Hz Amps	dI/dt Amps/µs
A		150	100	50		20	500
C	500	400	200		100	60	500

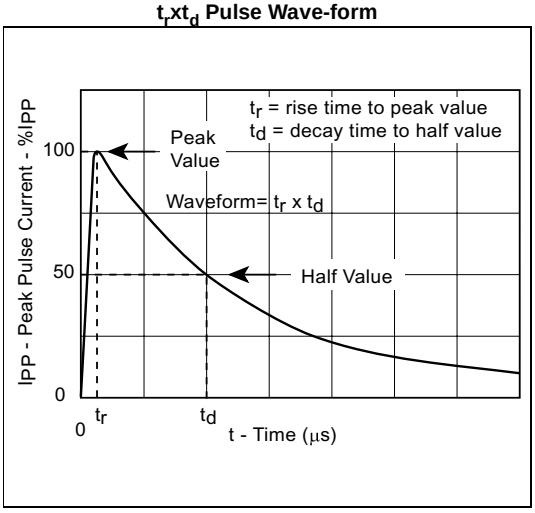
Thermal Considerations

Package	Symbol	Parameter	Value	Unit
DO-214	T_j	Junction Temperature Range	-40 to +150	°C
	T_s	Storage Temperature Range	-65 to +150	°C
	T_c	Maximum Case Temperature	+75	°C
	$R_{\theta jc}$	Thermal Resistance: junction to case	+28	°C/W
	$R_{\theta ja}$	Thermal Resistance: junction to ambient	+90	°C/W

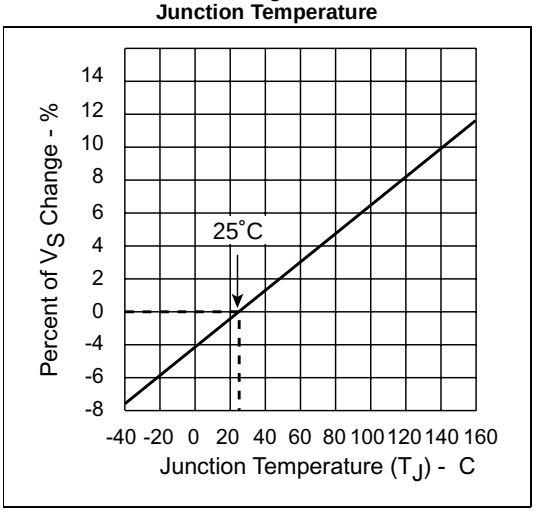
V-I Characteristics



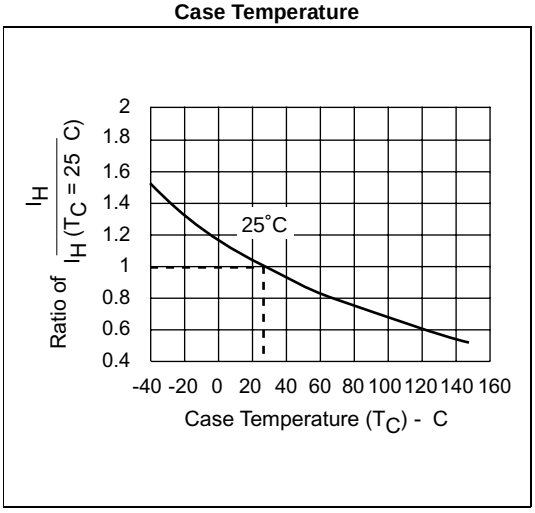
t_rxt_d Pulse Wave-form



Normalized V_S Change vs. Junction Temperature



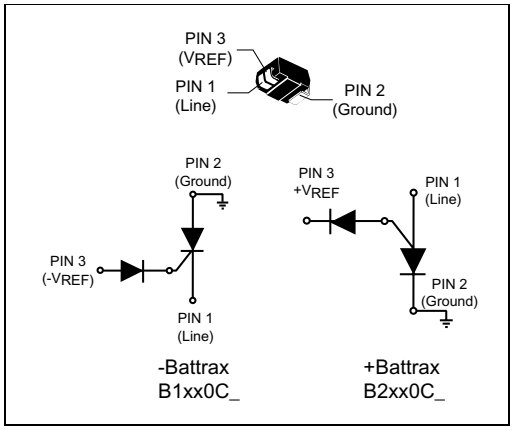
Normalized DC Holding Current vs. Case Temperature



Subscriber Line Interface Circuit (SLIC) Protection Battrax (Modified DO-214)

The Battrax is a solid state protection device that can be referenced to either a positive or negative voltage source using the B1xx0C_ for a $-V_{REF}$ and the B2xx0C_ for a $+V_{REF.}$ Designed using a high holding current SCR and an integrated diode, the B1xx0C_ Battrax begins to conduct at $|-V_{REF}|+|-1.2V|$ while the B2xx0C_ Battrax begins to conduct at $|+V_{REF}|+|1.2V|$.

For specific diagrams using the Battrax, please see pages 3-21 and 3-22.



Electrical Parameters

Part Number*	V_{DRM} Volts	V_S Volts	V_T Volts	V_F Volts	I_{DRM} µAmps	I_S mAmps	I_T Amps	I_H mAmps	C_O pF
B1100C_	$\|-V_{REF}\|+\|-1.2V\|$	$\|-V_{REF}\|+\|-10V\|$	5	5	5	400	1	100	50
B1160C_	$\|-V_{REF}\|+\|-1.2V\|$	$\|-V_{REF}\|+\|-10V\|$	5	5	5	400	1	160	50
B1200C_	$\|-V_{REF}\|+\|-1.2V\|$	$\|-V_{REF}\|+\|-10V\|$	5	5	5	400	1	200	50
B2100C_	$\|+V_{REF}\|+\|-1.2V\|$	$+V_{REF}$ + 10V	5	5	5	400	1	100	50
B2160C_	$\|+V_{REF}\|+\|-1.2V\|$	$+V_{REF}$ + 10V	5	5	5	400	1	160	50
B2200C_	$\|+V_{REF}\|+\|-1.2V\|$	$+V_{REF}$ + 10V	5	5	5	400	1	200	50

* For individual “CA” and “CC” surge ratings, see table below.

Notes:

- All measurements are made at an ambient temperature of 25°C. I_{PP} applies to -40°C through +85°C temperature range.
- I_{PP} is a repetitive surge rating and is guaranteed for the life of the product.
- I_{PP} ratings assume a V_{REF} =± 48V.
- V_{DRM} is measured at $I_{DRM.}$
- V_S is measured at 100V/µs.
- Off-state capacitance is measured at 1MHz with a 2 volt bias and is a typical value. “CC” product is approximately 2x the listed value.
- +Battrax information is preliminary data.

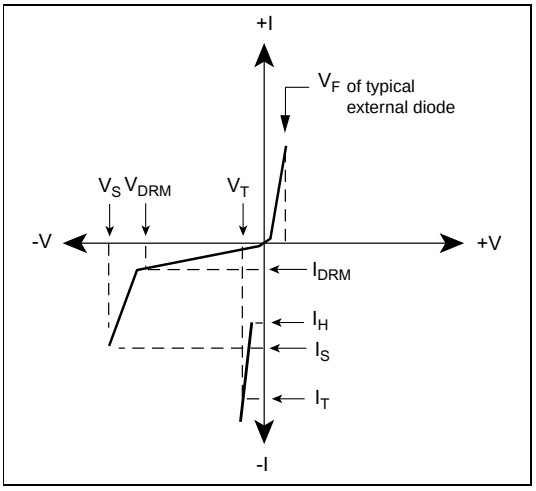
Surge Ratings (Preliminary Data)

Series	I_{PP} 2x10µs Amps	I_{PP} 8x20µs Amps	I_{PP} 10x160µs Amps	I_{PP} 10x560µs Amps	I_{PP} 10x1000µs Amps	I_{TSM} 60Hz Amps	dI/dt Amps/µs
A		150	100	50		40	500
C	500	400	200		100	60	500

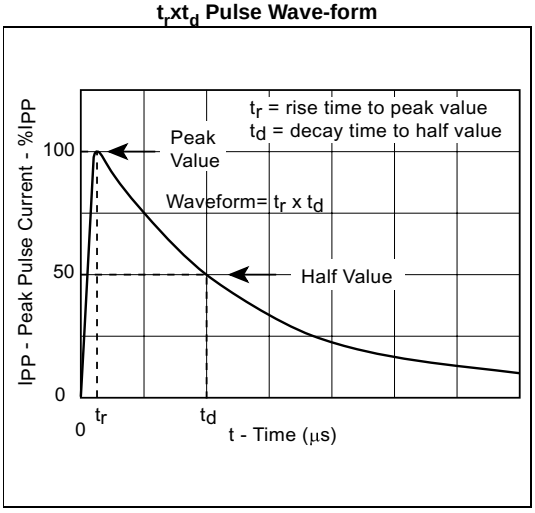
Thermal Considerations

Package	Symbol	Parameter	Value	Unit
Battrax	T_j	Junction Temperature Range	-40 to +150	°C
	T_S	Storage Temperature Range	-65 to +150	°C
	T_c	Maximum Case Temperature	+75	°C
	$R_{\theta jc}$	Thermal Resistance: junction to case	+26	°C/W
	$R_{\theta ja}$	Thermal Resistance: junction to ambient	+85	°C/W

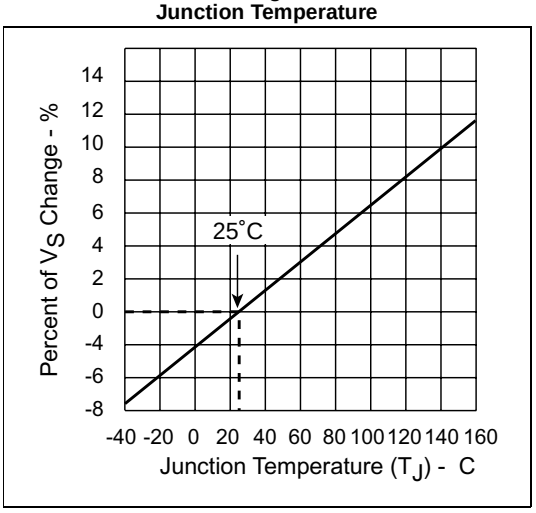
V-I Characteristics



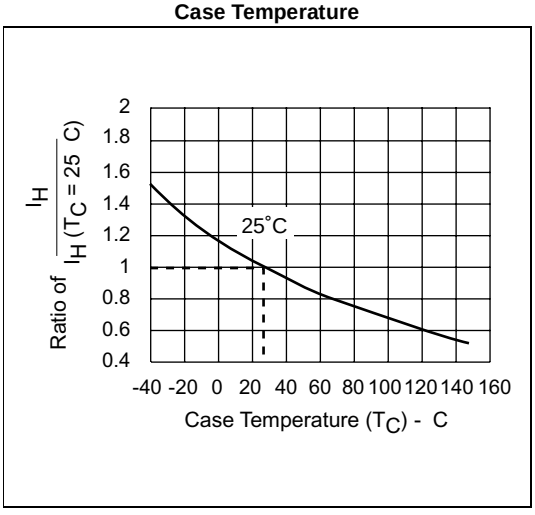
t_rxt_d Pulse Wave-form



Normalized V_S Change vs. Junction Temperature



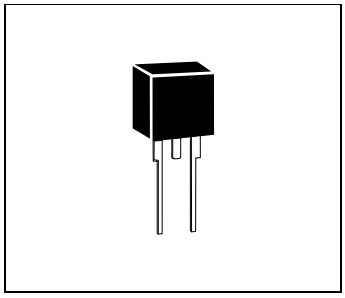
Normalized DC Holding Current vs. Case Temperature



CATV Series SIDACtor

The P1400AD SIDACtor is a 1000A rated solid state protection device offered in a TO-220 package and is designed to meet the severe surge requirements found in a CATV environment.

Used in Hybrid Fiber Coax (HFC) applications, the P1400AD replaces the gas tube that is traditionally used for station protection due to the P1400AD's tight voltage tolerances.



Electrical Parameters

Part Number	V_{DRM} Volts	V_S Volts	V_T Volts	I_{DRM} µAmps	I_S mAmps	I_T Amps	I_H mAmps	C_O pF
P1400AD	120	160	5	5	800	1	50	200

Notes:

- All measurements are made at an ambient temperature of 25°C. I_{PP} applies to -40°C through +85°C temperature range.
- I_{PP} is a repetitive surge rating and is guaranteed for the life of the product.
- Listed SIDACtors are bi-directional. All electrical parameters & surge ratings apply to forward and reverse polarities.
- V_{DRM} is measured at I_{DRM}.
- V_S is measured at 100V/µs.
- Special voltage (V_S & V_{DRM}) and holding current (I_H) requirements are available upon request.
- Off-state capacitance is measured at 1MHz with a 2 volt bias and is a typical value.

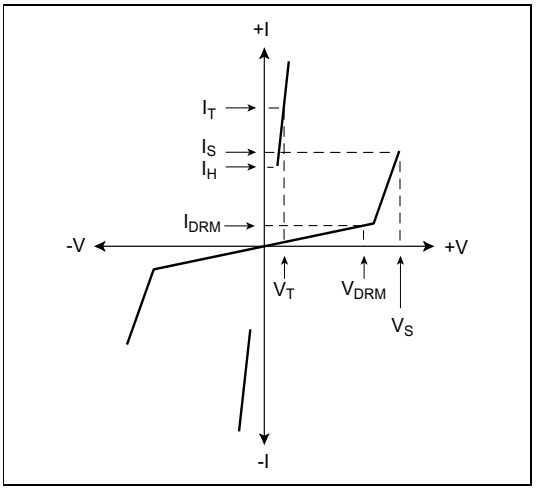
Surge Ratings

Series	I_{PP} 8x20µs Amps	I_{PP} 10x1000µs Amps	I_{TSM} 60Hz Amps	dI/dt Amps/µs
P1400AD	1000	250	120	500

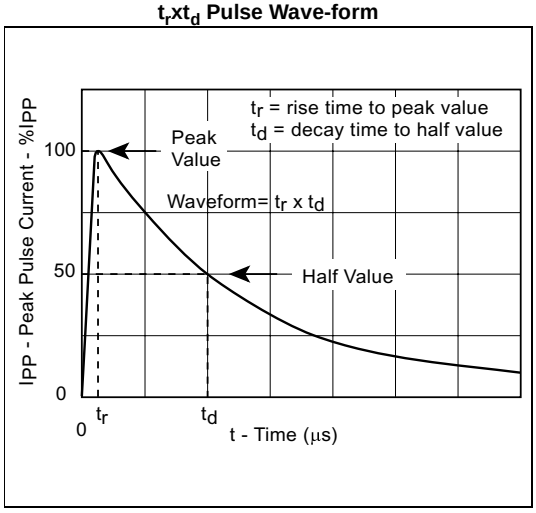
Thermal Considerations

Package	Symbol	Parameter	Value	Unit
P1400AD	T_j	Junction Temperature Range	-40 to +150	°C
	T_s	Storage Temperature Range	-65 to +150	°C
	T_c	Maximum Case Temperature	80	°C
	$R_{\theta jc}$	Thermal Resistance: junction to case	2.8	°C/W
	$R_{\theta ja}$	Thermal Resistance: junction to ambient	60	°C/W

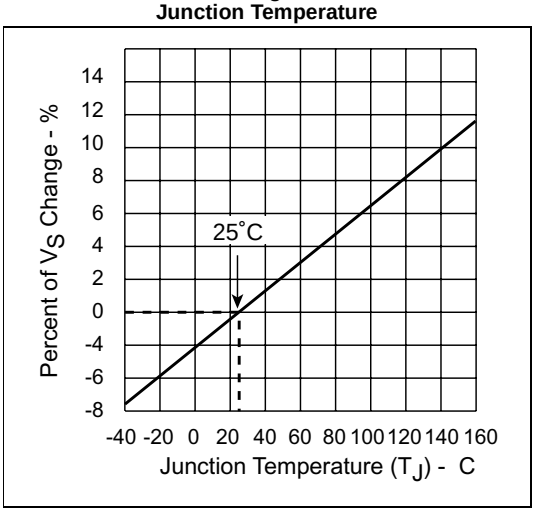
V-I Characteristics



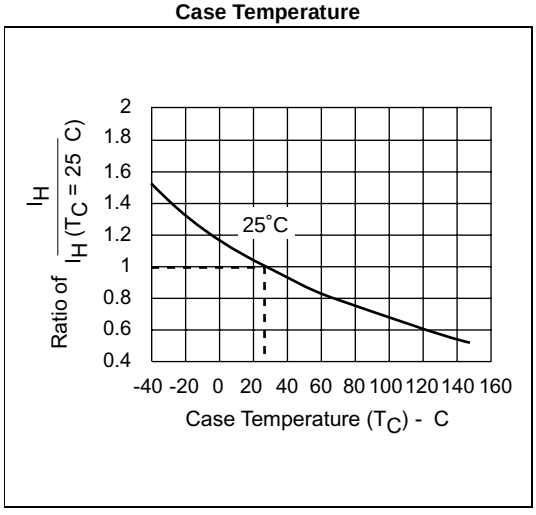
t_rxt_d Pulse Wave-form



Normalized V_S Change vs. Junction Temperature



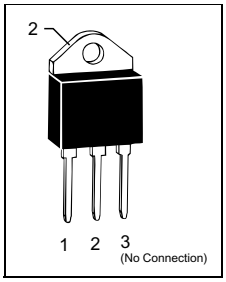
Normalized DC Holding Current vs. Case Temperature



CATV Series SIDACtor

The P1900ME is a 3000A rated solid state protection device offered in a non-isolated TO-218 package and is designed to meet the severe surge requirements found in a CATV environment.

Used on CATV line amplifiers and power inserters, the P1900ME replaces traditional gas tubes due to the P1900ME's tight voltage tolerances.



Electrical Parameters

Part Number	V_{DRM} Volts	V_S Volts	V_T Volts	I_{DRM} µAmps	I_S mAmps	I_T Amps*	I_H mAmps	C_O pF
P1900ME	140	220	5	5	800	2	50	750
P2300ME	180	260	5	5	800	2	50	750

* I_T is a free air rating; heat sink I_T rating is 25A.

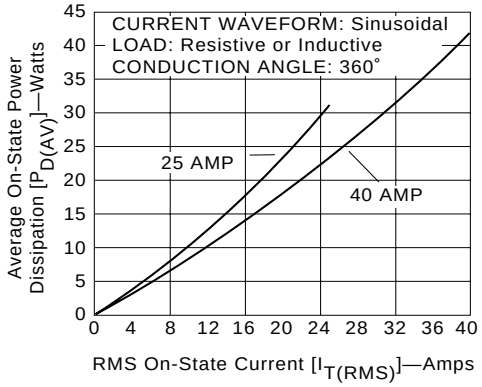
Notes:

- All measurements are made at an ambient temperature of 25°C. I_{PP} applies to -40°C through +85°C temperature range.
- I_{PP} is a repetitive surge rating and is guaranteed for the life of the product.
- Listed SIDACtors are bi-directional. All electrical parameters & surge ratings apply to forward and reverse polarities.
- V_{DRM} is measured at I_{DRM}.
- V_S is measured at 100V/µs.
- Special voltage (V_S & V_{DRM}) and holding current (I_H) requirements are available upon request.
- Off-state capacitance is measured at 1MHz with a 2 volt bias and is a typical value.

Surge Ratings

Series	I_{PP} 8x20µs	I_{TSM} 60Hz	dI/dt Amps/µs
P1900ME	3000	400	500
P2300ME	3000	400	500

Power Dissipation (Typical) vs On-State Current (25 and 40 Amp Devices)



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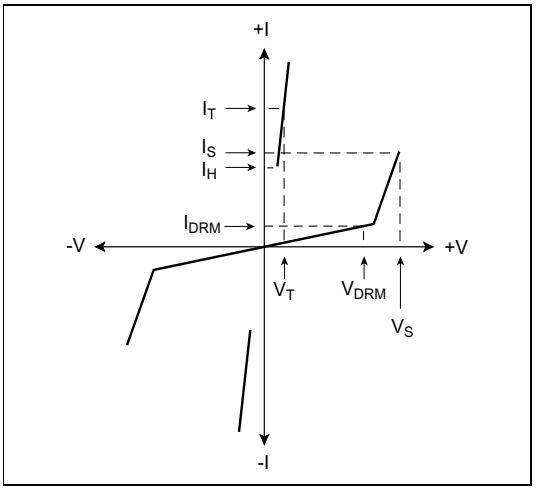
Thermal Considerations

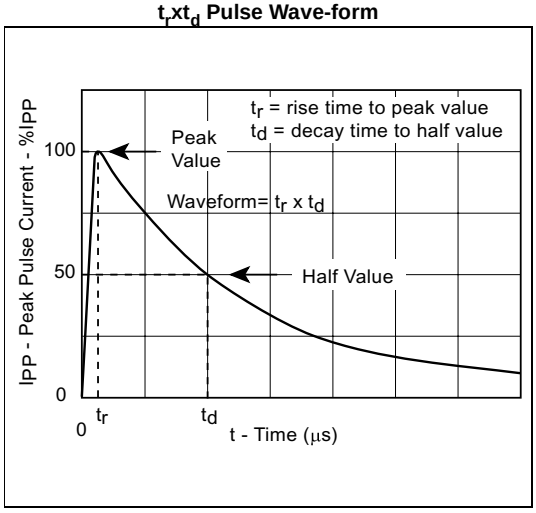
Package	Symbol	Parameter	Value	Unit
P1900ME	T_j	Junction Temperature Range	-40 to +150	°C
	T_s	Storage Temperature Range	-65 to +150	°C
	T_c	Maximum Case Temperature	+80	°C
	$R_{\theta jc}$*	Thermal Resistance: junction to case	+2.8	°C/W
	$R_{\theta ja}$	Thermal Resistance: junction to ambient	+60	°C/W

* $R_{\theta jc}$ rating assumes heat sinking is employed.

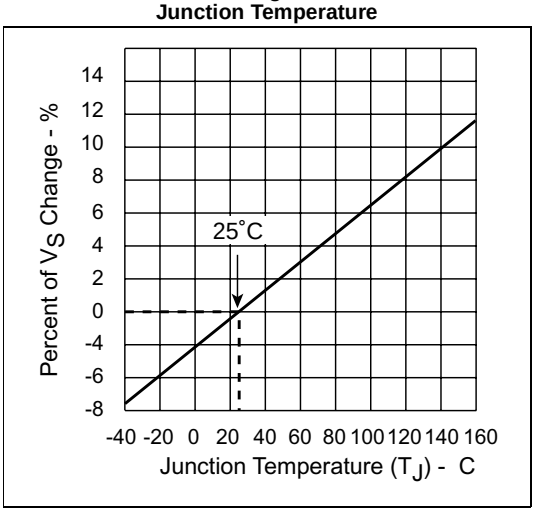
V-I Characteristics



t_rxt_d Pulse Wave-form



Normalized V_S Change vs. Junction Temperature



Normalized DC Holding Current vs. Case Temperature