

PRODUCT CHANGE NOTIFICATION PCN-000493

Date: 24MAY2019 P1/2

Semtech Corporation, 200 Flynn Road, Camarillo CA 93012						
Semtech Canada Corporation, 4281 Harvester Road, Burlington, Ontario L7L 5M4 Canada						
Semtech Irvine, 5141 California Ave., Suite 100, Irvine CA 92617						
Semtech Neuchatel	Sarl, Route des Go	outtes d'Or 40,	CH-2000 I	Neuchatel Switzerlar	nd	
Semtech Bristol - El	MEA Limited, Block	B, St James C	ourt, Grea	t Park Road, Bristol	BS32 4QJ, UK	
Semtech Corpus Ch						
Semtech Plano, 110	1 Resource Drive,	Suite 121, Plar	no TX 750	74		
		Change	Details			
Part Number(s) Aft SDC36C.TCT	fected:	Cu	stomer	Part Number(s)	Affected: ∑] N/A
Semtech is transferrin Diodes as an assembl of this part. The transfer of this pa	Description, Purpose and Effect of Change: Semtech is transferring this part to ASMC's 8" wafer fabrication line from their 5" fabrication line and adding Diodes as an assembly and test manufacturing site. This will bring additional capacity to the manufacturing of this part. The transfer of this part to the 8" fabrication line and to Diodes assembly necessitates some minor changes to the device datasheet parameters. These changes are listed in the tables below:					
	POD	Change				
DIM	Max (original)	Max (modi	fied)			
A	1.12mm	1.20mn				
A2	1.02mm	1.10mn	n			
	Electri	cal Change				
DIM	Max (original)	Max (modi	fied)			
Junction Capacitance	100pF	120pF				
				= =:		
Change Classification	n 🛚 Major	☐ Minor		ct to Form, Fit, Function	☐ Yes	⊠ No
Impact to Data Sheet ⊠ Yes ☐ No			New Rev	vision or Date	Rev 2.	□ N/A
Impact to Performance, Characteristics or Reliability: There is no impact to the reliability of the device. As outlined above, the transfer of this part to the 8" fabrication line and to Diodes assembly necessitates some minor changes to the device datasheet parameters.						



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Date: 24MAY2019

P2/2

Implementation Date	August 31, 2019	Work Week	To Be Advised
Last Time Ship (LTS) Of unchanged product	N/A	Affecting Lot No. / Serial No. (SN)	N/A
Sample Availability	Immediate	Qualification Report Availability	Attached

Supporting Documents for Change Validation/Attachments:

- Reliability Report
- Device Datasheet

Issuing Authority					
Semtech Business Unit:	Protection				
Semtech Contact Info:	Les Fang Yuen Semtech Corporation Sr. Engineering Manager, QA 200 Flynn Road Camarillo, CA 93012 Ifangyuen@semtech.com Office: (949) 269-4443	Les Long yun			

FOR FURTHER INFORMATION & WORLDWIDE SALES COVERAGE: http://www.semtech.com/contact/index.html#support

by Sublot, by Sequence Contact: Gurmail Sajjan (805) 480 2142 gsajjan@semtech.com

Businessunit	Protection				
Reljob#	Part_Number, Job Name/Type	Fab, Package	Rel Job Status	Key Dates:	
6315	SDC36C	ASMC12TVS	Rel Testing Complete	Job Accepted: 20-Mar-2017	
	Package Qual	SOT-23	Passes All Requirements	Requested CD:	
	Č			Actual Start Date: 16-Feb-2017	
	New Product on qualified process with unqualified package		0	ECD for Conditional:	
0				Job ECD: '28-Apr-2017	
0	quaнней раска <u>у</u> е			·	

Completed Tasks

Lot EP4698.00F Assembly	Lot AER-003913	DateCode	1706			
Seq TaskCode	SampleSize	Criteria	Complete Fo	ailures	DataSource	Results/Comments
1 Data-Prep	None	None	03-Mar-2017		Camarillo	
2 HTRB_Pre_Elect_150°C_RT24	105	Pass on Zero Fails	08-Mar-2017	0	Camarillo	
3 HTRB_150°C_Real Time_0024	105	Pass on Zero Fails	10-Mar-2017	0	Camarillo	
4 HTRB_Pre_Elect	105	Pass on Zero Fails	03-Mar-2017	0	Camarillo	
5 BI_BD_Valid	NA	Meet HTOL Schematics	03-Mar-2017	0	Camarillo	
6 HTRB_150°C_0072	105	Pass on Zero Fails	06-Mar-2017	0	Camarillo	
7 HTRB_150°C _0408	105	Pass on Zero Fails	20-Mar-2017	0	Camarillo	
8 HTS_Pre_Elect	77	Pass on Zero Fails	07-Mar-2017	0	Camarillo	
9 HTS_0168	77	Pass on Zero Fails	14-Mar-2017	0	Camarillo	
10 HTS_0500	77	Pass on Zero Fails	28-Mar-2017	0	Camarillo	
11 HTS_1000	77	Pass on Zero Fails	18-Apr-2017	0	Camarillo	
12 85/85_W/Pre_Pre Elec	20	Pass on Zero Fails	07-Mar-2017	0	Camarillo	
13 85°C/85%RH_BD_Valid	20	Pass on Zero Fails	07-Mar-2017	0	Camarillo	
14 85/85_120hr_On/Off	20	Pass on Zero Fails	13-Mar-2017	0	Camarillo	
15 Pre_Conditioning_Level_1	NA	MSL 1	07-Mar-2017		Camarillo	

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Se	eq TaskCode		SampleSize	Criteria	Complete	Failures	DataSource Resul	ts/Comments
2.0 L	Lot EP4698.00F A	ssemblyLo	<i>t</i> AER-003915	DateCode	1706			
3	39 Pack_Clos		0	0	28-Apr-2017		Camarillo	
3	38 Rider_Card_Wash/Bake		154		06-Mar-2017	0	Camarillo	
`	or Constitut_Fackage		devices minimum.	Q&R to review construction analysis report.	21-IVIAI-2017	U	Carrariio	
	36 CSAM Analysis 37 Construct_Package		5 unique packaged	No Major Findings,	27-Mar-2017		Camarillo	
	35 Precond_260°C_IR_Ref_Ch		22	Pass on Zero Fails Pass on Zero Fails	16-Mar-2017 17-Mar-2017		Camarillo Camarillo	
	34 Precond_85/85_NoElec168h		22	Pass on Zero Fails	16-Mar-2017		Camarillo	
	33 Precond_HTS_24hr		22	Pass on Zero Fails	09-Mar-2017		Camarillo	
	32 Precond_Temp_Cyc_5cyc		22	Pass on Zero Fails	08-Mar-2017		Camarillo	
	31 CSAM Analysis		22	Pass on Zero Fails	07-Mar-2017		Camarillo	
3	30 Cross_Section 85°C/85%		15	Pass on Zero Fails	27-Apr-2017	0	Camarillo	
2	29 85°C/85%RH_Biased_1000h	hrs	77	Pass on Zero Fails	27-Apr-2017	0	Camarillo	
2	28 85°C/85%RH_Biased_500hr	rs	77	Pass on Zero Fails	06-Apr-2017	0	Camarillo	
2	27 85°C/85%RH_Biased_168hr	rs	77	Pass on Zero Fails	23-Mar-2017	0	Camarillo	
2	26 85°C/85%RH_W/Pre_Pre El	lec	77	Pass on Zero Fails	15-Mar-2017	0	Camarillo	
2	25 Cross_Section TC 1000 Cyc	C	15	Pass on Zero Fails	05-Apr-2017	0	Camarillo	
2	24 T/C_wPre_1000		77	Pass on Zero Fails	05-Apr-2017	0	Camarillo	
2	23 T/C_wPre_0500		77	Pass on Zero Fails	27-Mar-2017	0	Camarillo	
2	22 T/C_wPre_0250		77	Pass on Zero Fails	22-Mar-2017	0	Camarillo	
2	21 T/C_Pre_Elect		77	Pass on Zero Fails	15-Mar-2017	0	Camarillo	
2	20 Precond_260°C_IR_Ref_Ch	nar	154	Pass on Zero Fails	15-Mar-2017	0	Camarillo	
,	19 Precond_85/85_NoElec168h	hr	154	Pass on Zero Fails	15-Mar-2017	0	Camarillo	
	18 Precond_HTS_24hr		154	Pass on Zero Fails	08-Mar-2017	0	Camarillo	
,	17 Precond_Temp_Cyc_5cyc		154	Pass on Zero Fails	07-Mar-2017	0	Camarillo	
•	16 Pre_Elect_Precond		154	Pass on Zero Fails	07-Mar-2017	0	Camarillo	

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1 Data-Prep	None	None	03-Mar-2017		Camarillo
2 HTRB_Pre_Elect_150°C_RT24	105	Pass on Zero Fails	08-Mar-2017	0	Camarillo
3 HTRB_150°C_Real Time_0024	105	Pass on Zero Fails	14-Mar-2017	0	Camarillo
4 HTRB_Pre_Elect	105	Pass on Zero Fails	03-Mar-2017	0	Camarillo
5 BI_BD_Valid	NA	Meet HTOL Schematics	03-Mar-2017	0	Camarillo
6 HTRB_150°C_0072	105	Pass on Zero Fails	06-Mar-2017	0	Camarillo
7 HTRB_150°C _0408	105	Pass on Zero Fails	20-Mar-2017	0	Camarillo
8 HTS_Pre_Elect	77	Pass on Zero Fails	07-Mar-2017	0	Camarillo
9 HTS_0168	77	Pass on Zero Fails	14-Mar-2017	0	Camarillo
10 HTS_0500	77	Pass on Zero Fails	28-Mar-2017	0	Camarillo
11 HTS_1000	77	Pass on Zero Fails	18-Apr-2017	0	Camarillo
12 85/85_W/Pre_Pre Elec	20	Pass on Zero Fails	07-Mar-2017	0	Camarillo
13 85°C/85%RH_BD_Valid	20	Pass on Zero Fails	07-Mar-2017	0	Camarillo
14 85/85_120hr_On/Off	20	Pass on Zero Fails	13-Mar-2017	0	Camarillo
15 Pre_Elect_Precond	154	Pass on Zero Fails	07-Mar-2017	0	Camarillo
16 Precond_Temp_Cyc_5cyc	154	Pass on Zero Fails	07-Mar-2017	0	Camarillo
17 Precond_HTS_24hr	154	Pass on Zero Fails	08-Mar-2017	0	Camarillo
18 Precond_85/85_NoElec168hr	154	Pass on Zero Fails	15-Mar-2017	0	Camarillo
19 Precond_IR_Refl_Char	154	Pass on Zero Fails	15-Mar-2017	0	Camarillo
20 T/C_Pre_Elect	77	Pass on Zero Fails	15-Mar-2017	0	Camarillo
21 T/C_wPre_0250	77	Pass on Zero Fails	22-Mar-2017	0	Camarillo
22 T/C_wPre_0500	77	Pass on Zero Fails	27-Mar-2017	0	Camarillo
23 T/C_wPre_1000	77	Pass on Zero Fails	05-Apr-2017	0	Camarillo
24 Cross_Section TC 1000 Cyc	15	Pass on Zero Fails	05-Apr-2017	0	Camarillo
25 85°C/85%RH_W/Pre_Pre Elec	77	Pass on Zero Fails	15-Mar-2017	0	Camarillo
26 85°C/85%RH_BD_Valid	77	Pass on Zero Fails	16-Mar-2017	0	Camarillo
27 85°C/85%RH_Biased_168hrs	77	Pass on Zero Fails	23-Mar-2017	0	Camarillo

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	28 85°C/85%RH_Biased_500hrs	77	Pass on Zero Fails	06-Apr-2017	0	Camarillo	
	29 85°C/85%RH_Biased_1000hrs	77	Pass on Zero Fails	27-Apr-2017	0	Camarillo	
	30 Cross_Section 85°C/85%	15	Pass on Zero Fails	27-Apr-2017	0	Camarillo	
	31 Rider_Card_Wash/Bake	154	Pass on Zero Fails	06-Mar-2017	0	Camarillo	
	32 CSAM Analysis	22	Pass on Zero Fails	07-Mar-2017	0	Camarillo	
	33 Precond_Temp_Cyc_5cyc	22	Pass on Zero Fails	08-Mar-2017	0	Camarillo	
	34 Precond_HTS_24hr	22	Pass on Zero Fails	09-Mar-2017	0	Camarillo	
	35 Precond_85/85_NoElec168hr	22	Pass on Zero Fails	16-Mar-2017	0	Camarillo	
	36 Precond_260°C_IR_Ref_Char	22	Pass on Zero Fails	16-Mar-2017	0	Camarillo	
	37 CSAM Analysis	22	Pass on Zero Fails	17-Mar-2017	0	Camarillo	
	38 Pack_Clos	0	0	28-Apr-2017		Camarillo	
3.0	Lot EP4698.00F Assembly I	AER-003916	DateCode	1706			
	Seq TaskCode	SampleSize	Criteria	Complete F	ailures	DataSource Results/Comments	
	seq ruskeoue	Samplestae		Complete 1	and os		
	1 Data-Prep	None	None	03-Mar-2017		Camarillo	
		-			0		
	1 Data-Prep	None	None	03-Mar-2017		Camarillo	
	1 Data-Prep 2 HTRB_Pre_Elect_150°C_RT24	None 105	None Pass on Zero Fails	03-Mar-2017 08-Mar-2017	0	Camarillo Camarillo	
	1 Data-Prep 2 HTRB_Pre_Elect_150°C_RT24 3 HTRB_150°C_Real Time_0024	None 105 105	None Pass on Zero Fails Pass on Zero Fails	03-Mar-2017 08-Mar-2017 15-Mar-2017	0	Camarillo Camarillo Camarillo	
	1 Data-Prep 2 HTRB_Pre_Elect_150°C_RT24 3 HTRB_150°C_Real Time_0024 4 HTRB_Pre_Elect	None 105 105 105	None Pass on Zero Fails Pass on Zero Fails Pass on Zero Fails Meet HTOL	03-Mar-2017 08-Mar-2017 15-Mar-2017 03-Mar-2017	0 0 0	Camarillo Camarillo Camarillo Camarillo	
	1 Data-Prep 2 HTRB_Pre_Elect_150°C_RT24 3 HTRB_150°C_Real Time_0024 4 HTRB_Pre_Elect 5 BI_BD_Valid	None 105 105 105 NA	None Pass on Zero Fails Pass on Zero Fails Pass on Zero Fails Meet HTOL Schematics	03-Mar-2017 08-Mar-2017 15-Mar-2017 03-Mar-2017	0 0 0	Camarillo Camarillo Camarillo Camarillo Camarillo	
	1 Data-Prep 2 HTRB_Pre_Elect_150°C_RT24 3 HTRB_150°C_Real Time_0024 4 HTRB_Pre_Elect 5 BI_BD_Valid 6 HTRB_150°C_0072	None 105 105 105 NA 105	None Pass on Zero Fails Pass on Zero Fails Pass on Zero Fails Meet HTOL Schematics Pass on Zero Fails	03-Mar-2017 08-Mar-2017 15-Mar-2017 03-Mar-2017 03-Mar-2017	0 0 0 0	Camarillo Camarillo Camarillo Camarillo Camarillo Camarillo Camarillo	
	1 Data-Prep 2 HTRB_Pre_Elect_150°C_RT24 3 HTRB_150°C_Real Time_0024 4 HTRB_Pre_Elect 5 BI_BD_Valid 6 HTRB_150°C_0072 7 HTRB_150°C_0408	None 105 105 105 NA 105 105	None Pass on Zero Fails Pass on Zero Fails Pass on Zero Fails Meet HTOL Schematics Pass on Zero Fails Pass on Zero Fails	03-Mar-2017 08-Mar-2017 15-Mar-2017 03-Mar-2017 03-Mar-2017 06-Mar-2017 20-Mar-2017	0 0 0 0	Camarillo Camarillo Camarillo Camarillo Camarillo Camarillo Camarillo Camarillo	
	1 Data-Prep 2 HTRB_Pre_Elect_150°C_RT24 3 HTRB_150°C_Real Time_0024 4 HTRB_Pre_Elect 5 BI_BD_Valid 6 HTRB_150°C_0072 7 HTRB_150°C_0408 8 HTS_Pre_Elect	None 105 105 105 NA 105 105 77	None Pass on Zero Fails Pass on Zero Fails Pass on Zero Fails Meet HTOL Schematics Pass on Zero Fails Pass on Zero Fails Pass on Zero Fails	03-Mar-2017 08-Mar-2017 15-Mar-2017 03-Mar-2017 03-Mar-2017 06-Mar-2017 20-Mar-2017	0 0 0 0 0	Camarillo Camarillo Camarillo Camarillo Camarillo Camarillo Camarillo Camarillo Camarillo	
	1 Data-Prep 2 HTRB_Pre_Elect_150°C_RT24 3 HTRB_150°C_Real Time_0024 4 HTRB_Pre_Elect 5 BI_BD_Valid 6 HTRB_150°C_0072 7 HTRB_150°C_0408 8 HTS_Pre_Elect 9 HTS_0168	None 105 105 105 NA 105 105 77	None Pass on Zero Fails Pass on Zero Fails Pass on Zero Fails Meet HTOL Schematics Pass on Zero Fails Pass on Zero Fails Pass on Zero Fails Pass on Zero Fails	03-Mar-2017 08-Mar-2017 15-Mar-2017 03-Mar-2017 03-Mar-2017 06-Mar-2017 20-Mar-2017 07-Mar-2017	0 0 0 0 0	Camarillo	
	1 Data-Prep 2 HTRB_Pre_Elect_150°C_RT24 3 HTRB_150°C_Real Time_0024 4 HTRB_Pre_Elect 5 BI_BD_Valid 6 HTRB_150°C_0072 7 HTRB_150°C_0408 8 HTS_Pre_Elect 9 HTS_0168 10 HTS_0500	None 105 105 105 NA 105 105 77 77	None Pass on Zero Fails Pass on Zero Fails Pass on Zero Fails Meet HTOL Schematics Pass on Zero Fails	03-Mar-2017 08-Mar-2017 15-Mar-2017 03-Mar-2017 03-Mar-2017 06-Mar-2017 20-Mar-2017 14-Mar-2017 28-Mar-2017	0 0 0 0 0 0	Camarillo	
	1 Data-Prep 2 HTRB_Pre_Elect_150°C_RT24 3 HTRB_150°C_Real Time_0024 4 HTRB_Pre_Elect 5 BI_BD_Valid 6 HTRB_150°C_0072 7 HTRB_150°C_0408 8 HTS_Pre_Elect 9 HTS_0168 10 HTS_0500 11 HTS_1000	None 105 105 105 NA 105 105 77 77 77	None Pass on Zero Fails Pass on Zero Fails Pass on Zero Fails Meet HTOL Schematics Pass on Zero Fails	03-Mar-2017 08-Mar-2017 15-Mar-2017 03-Mar-2017 03-Mar-2017 06-Mar-2017 20-Mar-2017 14-Mar-2017 28-Mar-2017	0 0 0 0 0 0 0	Camarillo	
	1 Data-Prep 2 HTRB_Pre_Elect_150°C_RT24 3 HTRB_150°C_Real Time_0024 4 HTRB_Pre_Elect 5 BI_BD_Valid 6 HTRB_150°C_0072 7 HTRB_150°C_0408 8 HTS_Pre_Elect 9 HTS_0168 10 HTS_0500 11 HTS_1000 12 85/85_W/Pre_Pre Elec	None 105 105 105 NA 105 105 77 77 77 77 20	None Pass on Zero Fails Pass on Zero Fails Pass on Zero Fails Meet HTOL Schematics Pass on Zero Fails	03-Mar-2017 08-Mar-2017 15-Mar-2017 03-Mar-2017 03-Mar-2017 06-Mar-2017 20-Mar-2017 14-Mar-2017 28-Mar-2017 18-Apr-2017	0 0 0 0 0 0 0	Camarillo	

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15 Pre_Elect_Precond	154	Pass on Zero Fails	07-Mar-2017	0	Camarillo
16 Precond_Temp_Cyc_5cyc	154	Pass on Zero Fails	07-Mar-2017	0	Camarillo
17 Precond_HTS_24hr	154	Pass on Zero Fails	08-Mar-2017	0	Camarillo
18 Precond_85/85_NoElec168hr	154	Pass on Zero Fails	15-Mar-2017	0	Camarillo
19 Precond_IR_Refl_Char	154	Pass on Zero Fails	15-Mar-2017	0	Camarillo
20 T/C_Pre_Elect	77	Pass on Zero Fails	15-Mar-2017	0	Camarillo
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35 Precond_85/85_NoElec168hr	22	Pass on Zero Fails	16-Mar-2017	0	Camarillo
36 Precond_260°C_IR_Ref_Char	22	Pass on Zero Fails	16-Mar-2017	0	Camarillo
37 CSAM Analysis	22	Pass on Zero Fails	17-Mar-2017	0	Camarillo
38 Pack_Clos	0	0	28-Apr-2017		Camarillo

Friday, April 28, 2017

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TVS Diode Array for Proximity Switch Protection

PROTECTION PRODUCTS

Description

The SDC36C is a high-surge transient voltage suppressor (TVS) optimized for protection of sensitive digital sensors used in proximity switches and industrial control applications. The SDC36C protects the components from over-voltages caused by electrostatic discharge (ESD), electrical fast transients (EFT), and tertiary lightning. The unique design of the SDC36C incorporates two TVS diodes in a compact package for applications where board space is at a premium. The single package provides protection for the I/O line and power supply rail with high surge capabilities (4 Amps at tp=1.2/50µs) and an exceptionally low clamping voltage of <47V.

The SDC36C replaces up to two large discrete diodes providing the designer an easy to implement integrated solution. The SDC36C is in a 3-pin, RoHS/WEEE compliant, SOT-23 package. The small size and unique features of the SDC36C make it ideal for protection of two, three, and four wire DC high-side proximity switches.

Features

- Transient Protection to
 - IEC 61000-4-2 (ESD):15kV (Air), 8kV (Contact)
 - IEC 61000-4-4 (EFT): 40A (5/50ns)
 - IEC 61000-4-5 (Lightning): 4A (8/20μs)
- Replaces Two Discrete Devices
- Protects Two Lines
- Working Voltage: 33V
- High Surge capability
- Solid-State Silicon-Avalanche Technology

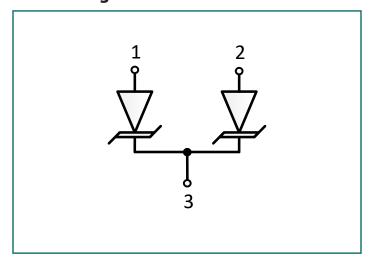
Mechanical Characteristics

- JEDEC SOT-23 Package
- · Pb-Free, Halogen Free, RoHS/WEEE Compliant
- Molding Compound Flammability Rating: UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel

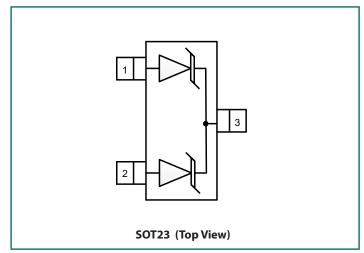
Applications

- Two, Three, and Four Wire DC High-Side Proximity Switch
- I/O Link
- Digital Sensor Input Protection
- Industrial Equipment

Circuit Diagram



Schematic and Pin Configuration



Absolute Maximum Ratings

Rating	Symbol	Value	Units
Peak Pulse Power (tp = $8/20\mu$ s)	P _{PK}	350	W
Peak Pulse Power (tp = 1.2/50µs)	P _{PK}	225	W
Peak Pulse Current (tp = 1.2/50μs)	I _{PP}	4	Α
Non-Repetitive Peak Forward Current (tp = 100μs)	I _{FSMAX}	4	A
Operating Temperature	T,	-55to +125	°C
Storage Temperature	T _{STG}	-55 to +150	∘С

Electrical Characteristics (T=25°C unless otherwise specified)

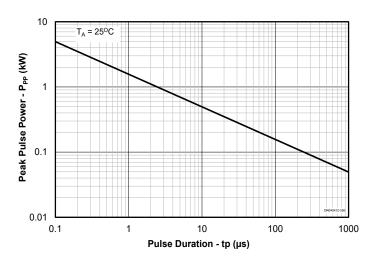
Parameter	Symbol	Conditions		Min.	Тур.	Max.	Units
Reverse Stand-Off Voltage	V _{RWM}	-40°C to 125°C, Pin 3	-40°C to 125°C, Pin 3 to Pin 1 or 2			33	V
Reverse Breakdown Voltage	V _{BR}	I _t = 1mA, Pin 3 to Pin 1 or 2		35			V
Davis and Lander of Comment		V 22V	T = 25°C			5	μΑ
Reverse Leakage Current	I _R	$V_{RWM} = 33V$	T = 85°C			25	μΑ
Clamping Voltage	V _c	$I_{pp} = 2A$, $tp = 1.2/50 \mu s$				47	V
Forward Voltage	V _F	I _F = 100mA				1.3	V
Junction Capacitance	C _J	$V_R = 0V, f = 1MHz, Pin$	3 to Pin 1 or 2			120	pF

^{(1):} ESD Gun return path to Ground Reference Plane (GRP)

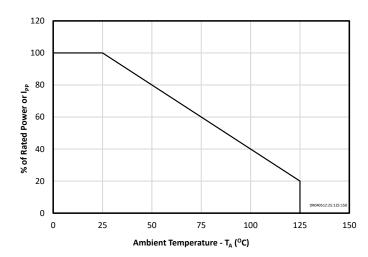
^{(2):} Transmission Line Pulse Test (TLP) Settings: tp = 100ns, tr = 0.2ns, I_{TLP} and V_{TLP} averaging window: $t_1 = 70ns$ to $t_2 = 90ns$. (3): Dynamic resistance calculated from $I_{TLP} = 4A$ to $I_{TLP} = 16A$.

Typical Characteristics

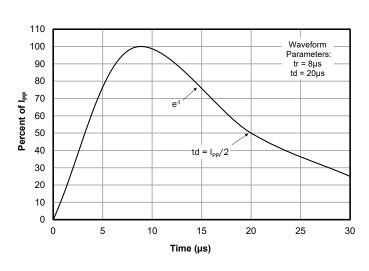
Non-Repetitive Peak Pulse Power vs. Pulse Time



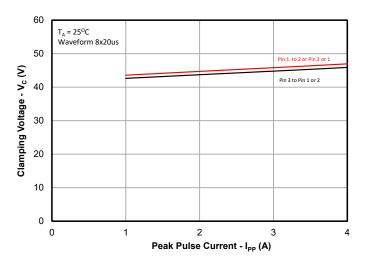
Power Derating Curve



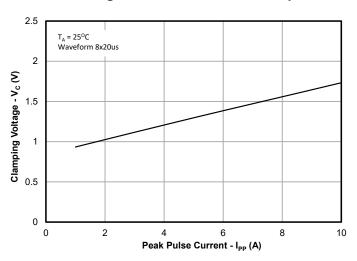
Pulse Waveform



Clamping Voltage vs. Peak Pulse Current (8/20µs Pulse)



Forward Voltage vs. Peak Pulse Current (8/20µs Pulse)



Application Information

Device Connection for Protection of Two, Three, and Four Wire Proximity Switches

Digital sensors help to bridge the gap between the physical world and the digital world in applications such as computer controlled factory automation. In such environments, transient voltages can easily disrupt or damage sensitive sensor inputs. The SDC36C provides transient voltage protection for the digital sensors to ensure their operation is not disrupted by the physical world.

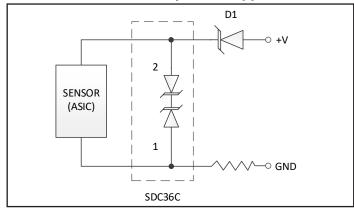
The SDC36C is designed to meet the high surge capability and low clamping voltage needed to protect the ASIC and control logic used in proximity switches. The SDC36C provides protection for the power and I/O lines. Typical configurations for the protection of two, three, and four wire switches are as follows:

- **1. Two-Wire Switch:** Connect pin 1 to the I/O line and pin 2 to the DC supply (since the device is symmetrical, these connections can be reversed). Pin 3 is not connected.
- **2. Three-Wire Switch:** Either pin 1 or pin 2 is connected to the I/O line with the other connected to ground. Pin 3 must be connected to the DC supply.
- **3. Four-Wire Switch:** Two device are required to protect four wire switches. Pin 3 of each device is connected to the DC supply line. Pins 1 and 2 are connected to the I/O lines and ground as shown.

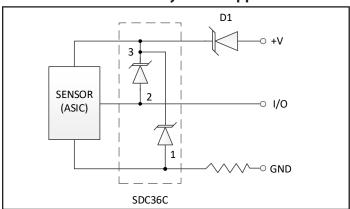
Matte Tin Lead Finish

Matte tin has become the industry standard lead-free replacement for SnPb lead finishes. A matte tin finish is composed of 100% tin solder with large grains. Since the solder volume on the leads is small compared to the solder paste volume that is placed on the land pattern of the PCB, the reflow profile will be determined by the requirements of the solder paste. Therefore, these devices are compatible with both lead-free and SnPb assembly techniques. In addition, unlike other lead-free compositions, matte tin does not have any added alloys that can cause degradation of the solder joint.

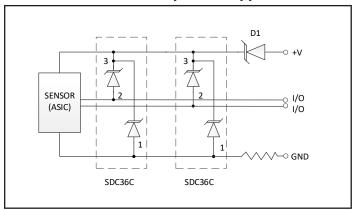
2-Wire DC Proximity Switch Application



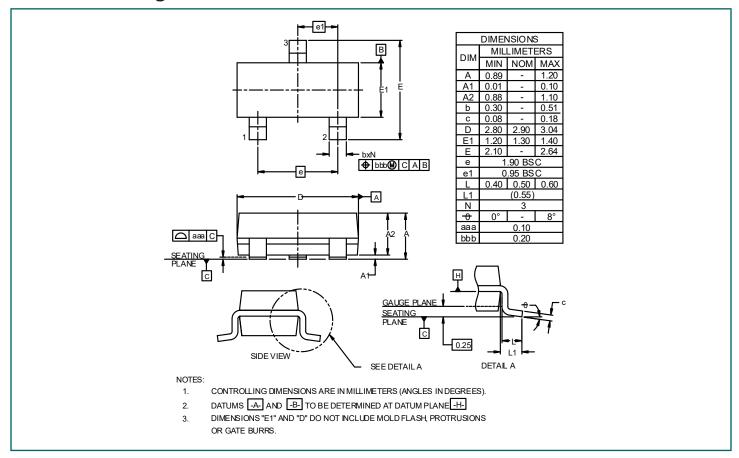
3-Wire DC Proximity Switch Application



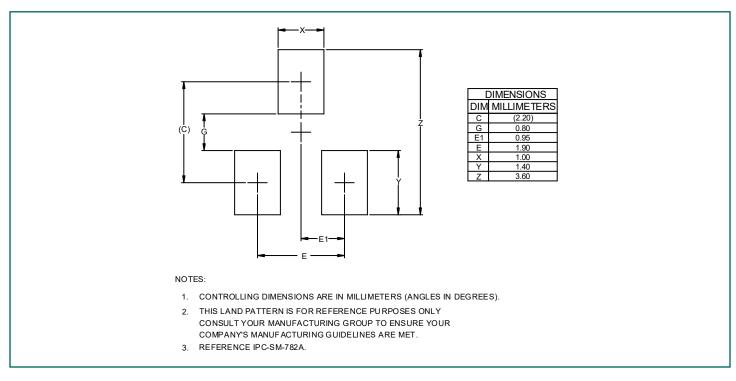
4-Wire DC Proximity Switch Application



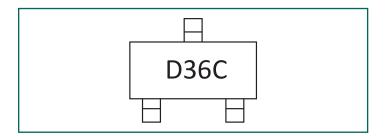
Outline Drawing - SOT23-3L



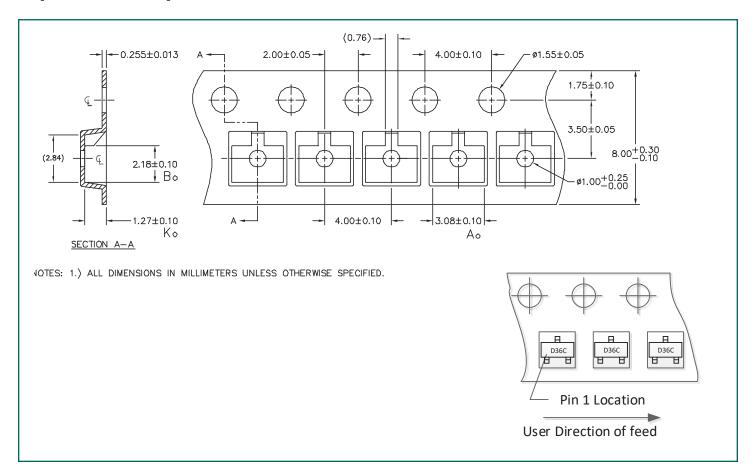
Land Pattern - SOT23-3L



Marking Code



Tape and Reel Specification



Ordering Information

Part Number	Qty per Reel	Reel Size	Pitch
SDC36C.TCT	3000	7 Inch	4mm



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