

PROTECTION PRODUCTS

Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 2/10\mu s$)	P_{pk}	300	Watts
Peak Pulse Current ($V = 80V$, $R = 8\text{ Ohms}$, $t_p = 2/10\mu s$)	I_{pp}	10	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	15 8	kV
Operating Temperature	T_j	-55 to +125	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Characteristics (T=25°C)

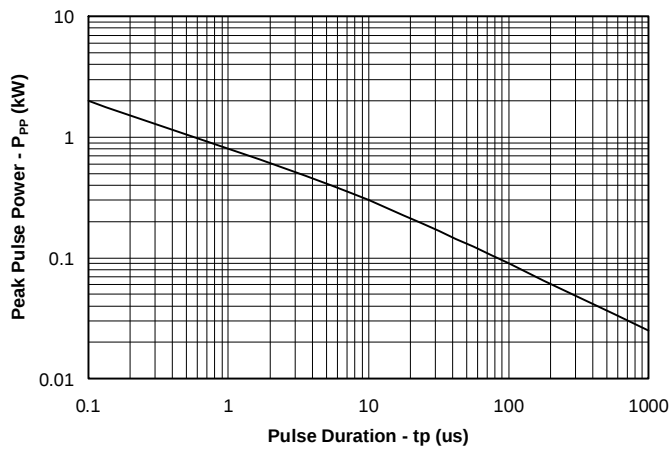
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}	Pin 5 to GND			5	V
Reverse Breakdown Voltage	V_{BR}	$I_t = 1mA$ Any I/O to GND	6	8	9.5	V
Reverse Leakage Current	I_R	$V_{RWM} = 5V$, $T=25^\circ C$ Any I/O to GND			3	μA
Forward Voltage	V_F	$I_F = 100mA$ Any I/O pin to pin 5 GND to any I/O			1.6	V
Clamping Voltage	V_C	$V = 80V$, $R = 8\text{ Ohms}$, $t_p = 2/10\mu s$ Any I/O pin to GND			30	V
Junction Capacitance	C_j	$V_R = 0V$, $f = 1MHz$ Any I/O pin to GND		1.9	3	pF
		$V_R = 0V$, $f = 1MHz$ Between I/O pins		0.80	1	pF

Note 1: I/O pins are pin 1, 3, 4, and 6

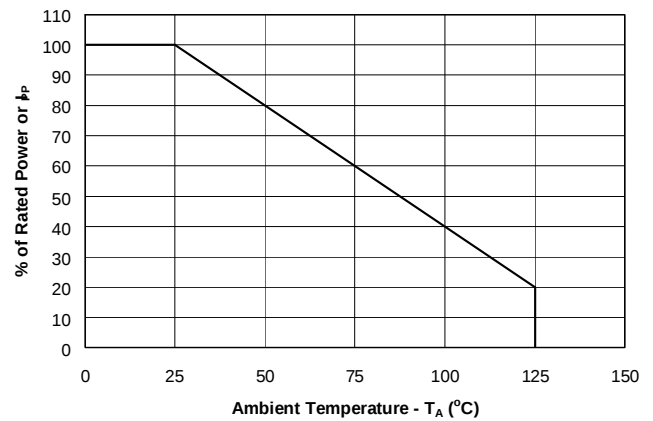
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Typical Characteristics

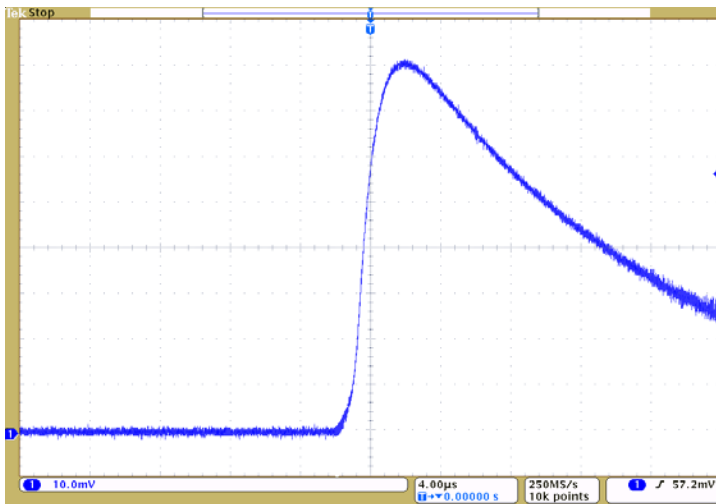
Non-Repetitive Peak Pulse Power vs. Pulse Time



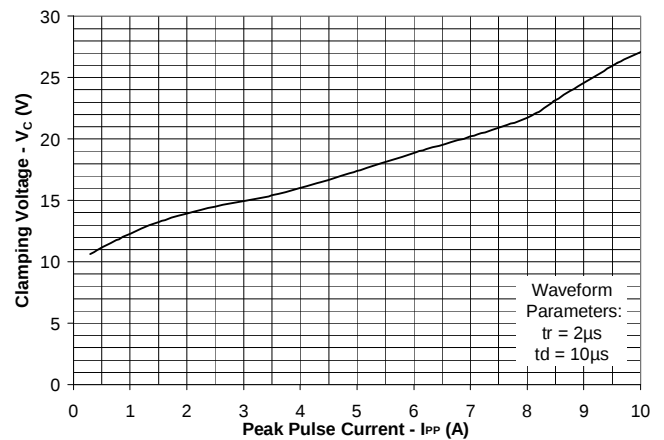
Power Derating Curve



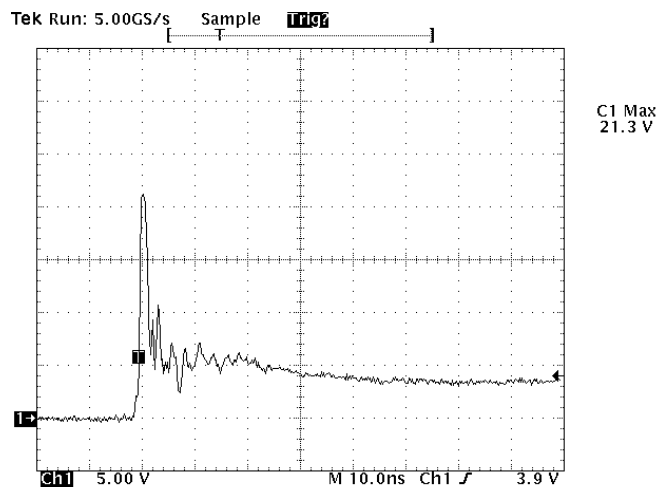
**Surge Current Output Waveform
($t_p = 2/10\mu s$)**



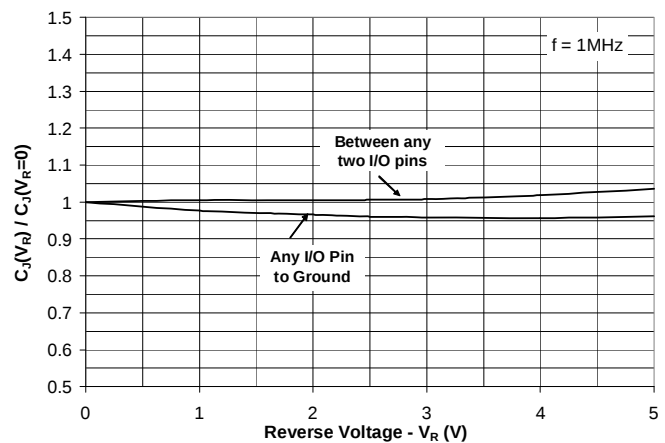
**Clamping Voltage vs. Peak Pulse Current
($t_p = 2/10\mu s$)**



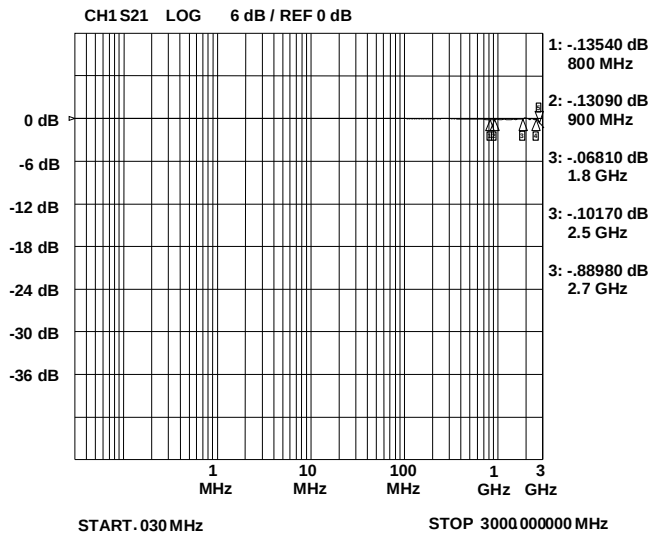
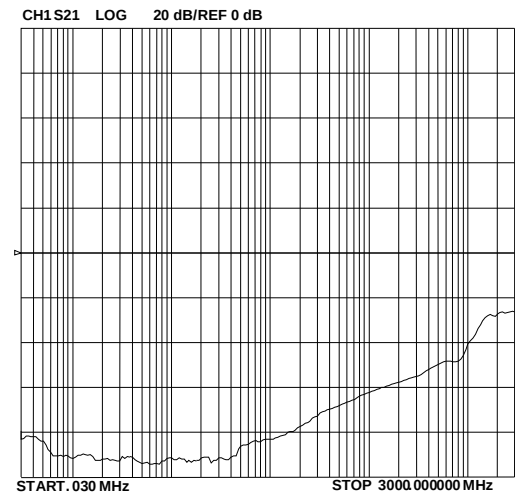
**ESD Clamping
(8kV Contact per IEC 61000-4-2)**



Normalized Capacitance vs. Reverse Voltage



Note: Data is taken with a 10x attenuator

PROTECTION PRODUCTS
Typical Characteristics
Insertion Loss S21 (I/O to Gnd)

Analog Crosstalk


PROTECTION PRODUCTS

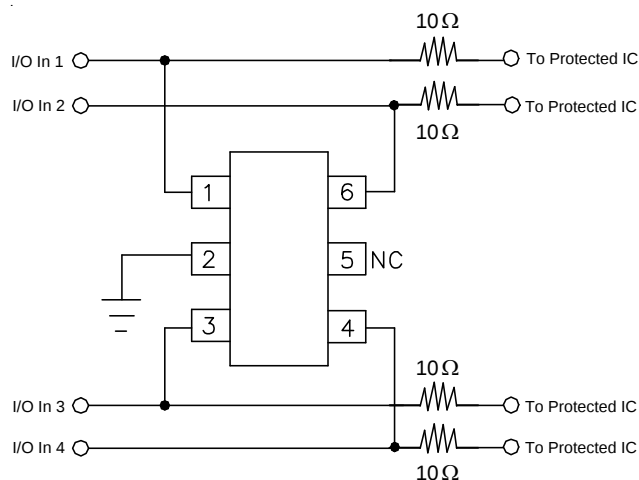
Applications Information

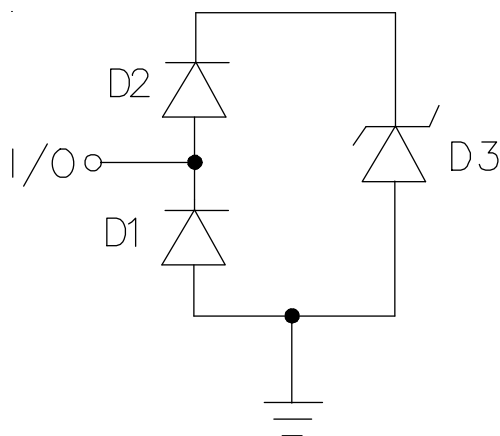
Device Connection Options for Protection of Four High-Speed Data Lines

This device is designed to protect high-speed data lines. When the voltage on the protected line exceeds the breakdown voltage of the internal TVS diode, the steering diodes are forward biased, conducting the transient current away from the sensitive circuitry to ground.

Data lines are connected at pins 1, 3, 4 and 6. Pin 2 should be connected directly to a ground plane. The path length is kept as short as possible to minimize parasitic inductance. An external 10 Ohm resistor can be added as shown. This helps restrict the flow of ESD current further enhancing the circuit protection capability of the device. When configured as shown, a LVDS chip may withstand up to 10A for a 2/10 us impulse waveform.

Enhanced Protection of Four Data Lines

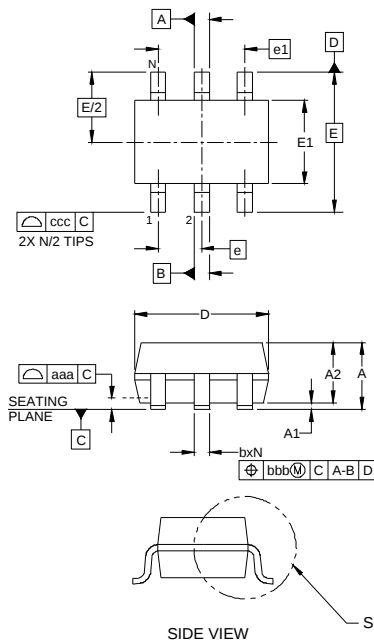


PROTECTION PRODUCTS
Applications Information - Spice Model

Spice Model

Spice Parameters				
Parameter	Unit	D1 (LCRD)	D2 (LCRD)	D3 (TVS)
IS	Amp	1E-20	1E-20	2.19E-12
BV	Volt	100	100	7.8
VJ	Volt	0.66	0.65	0.57
RS	Ohm	0.314	0.687	1.444
IBV	Amp	1E-3	1E-3	1E-3
CJO	Farad	1.5E-12	1.5E-12	121E-12
TT	sec	2.541E-9	2.541E-9	2.541E-9
M	--	0.01	0.01	0.236
N	--	1.1	1.1	1.1
EG	eV	1.11	1.11	1.11

PROTECTION PRODUCTS

Outline Drawing - SC-70

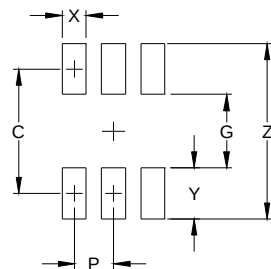


DIM	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	-	-	.043	-	-	1.10
A1	.000	-	.004	0.00	-	0.10
A2	.028	.035	.039	0.70	0.90	1.00
b	.006	-	.012	0.15	-	0.30
c	.003	-	.009	0.08	-	0.22
D	.071	.079	.087	1.80	2.00	2.20
E1	.045	.049	.053	1.15	1.25	1.35
E	.083 BSC			2.10 BSC		
e	.026 BSC			0.65 BSC		
e1	.051			1.30 BSC		
L	.010	.014	.018	0.26	0.36	0.46
L1	(.017)			(0.42)		
N	6			6		
θ1	0°	-	8°	0°	-	8°
aaa	.004			0.10		
bbb	.004			0.10		
ccc	.012			0.30		

NOTES:

1. CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).
2. DATUMS $\boxed{-A-}$ AND $\boxed{-B-}$ TO BE DETERMINED AT DATUM PLANE $\boxed{-H-}$.
3. DIMENSIONS "E1" AND "D" DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
4. REFERENCE JEDEC STD MO-203, VARIATION AB.

Land Pattern - SC-70



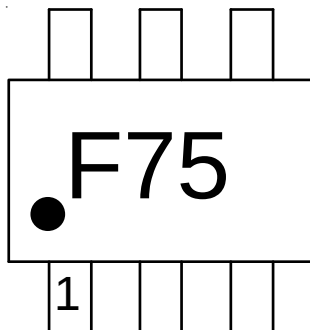
DIM	DIMENSIONS	
	INCHES	MILLIMETERS
C	(.073)	(1.85)
G	.039	1.00
P	.026	0.65
X	.016	0.40
Y	.033	0.85
Z	.106	2.70

NOTES:

1. THIS LAND PATTERN IS FOR REFERENCE PURPOSES ONLY. CONSULT YOUR MANUFACTURING GROUP TO ENSURE YOUR COMPANY'S MANUFACTURING GUIDELINES ARE MET.

PROTECTION PRODUCTS

Marking

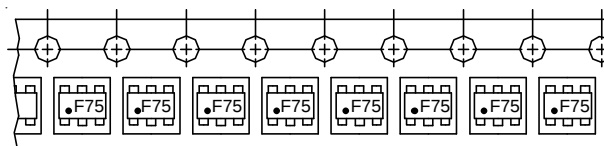
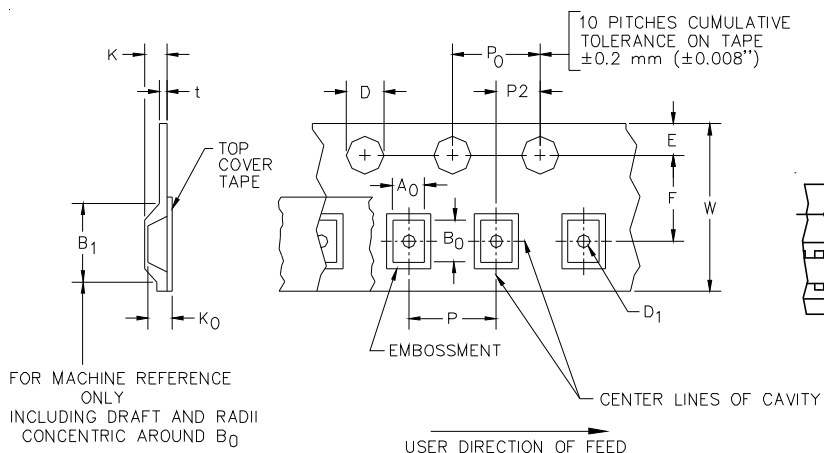


Ordering Information

Part Number	Lead Finish	Qty per Reel	Reel Size
RClamp7534F.TCT	Matte Sn	3,000	7 Inch

RailClamp and RClamp are marks of Semtech Corporation

Tape and Reel Specification



Device Orientation in Tape
Pin 1 in lower left

A0	B0	K0
2.40 +/-0.15 mm	2.40 +/-0.15 mm	1.20 +/-0.15 mm

Tape Width	B, (Max)	D	D1	E	F	K (MAX)	P	P0	P2	T(MAX)	W
8 mm	4.2 mm	1.5 + 0.1 mm - 0.0 mm)	0.5 mm ±0.05	1.750±.10 mm	3.5±0.05 mm	2.4 mm	4.0±0.1 mm	4.0±0.1 mm	2.0±0.05 mm	0.4 mm	8.0 mm + 0.3 mm - 0.1 mm

Contact Information

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