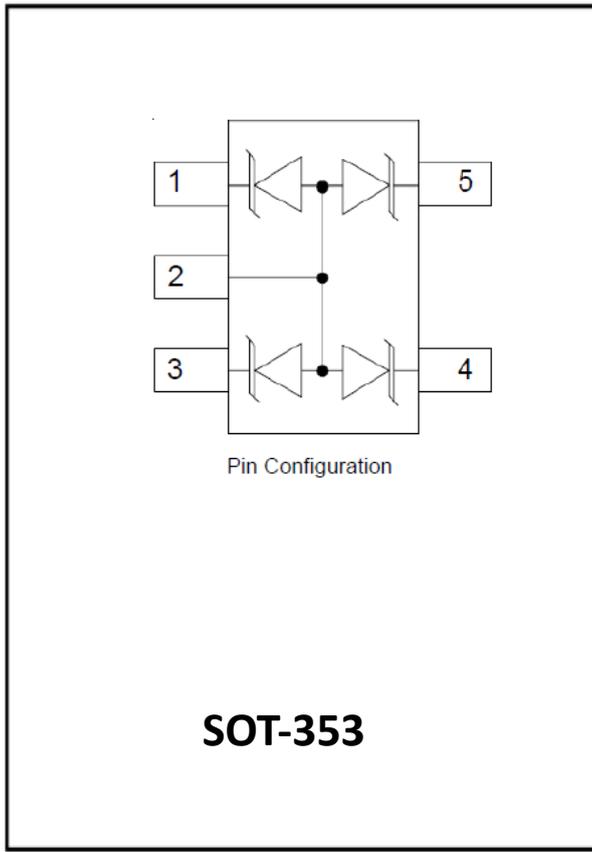


1-Line, Uni-directional, Transient Voltage Suppressor



Features

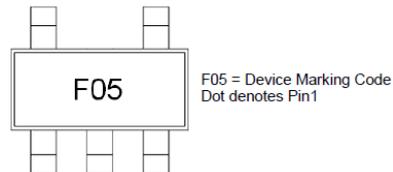
- Ultra small package
- Stand-off voltage: 5V Max
 - Transient protection for each line according to IEC61000-4-2(ESD): $\pm 30\text{kV}$ (contact)
 - IEC61000-4-5(surge): 8A (8/20 μs)
- Low leakage current
- Low clamping voltage
- RoHS Compliant

Applications

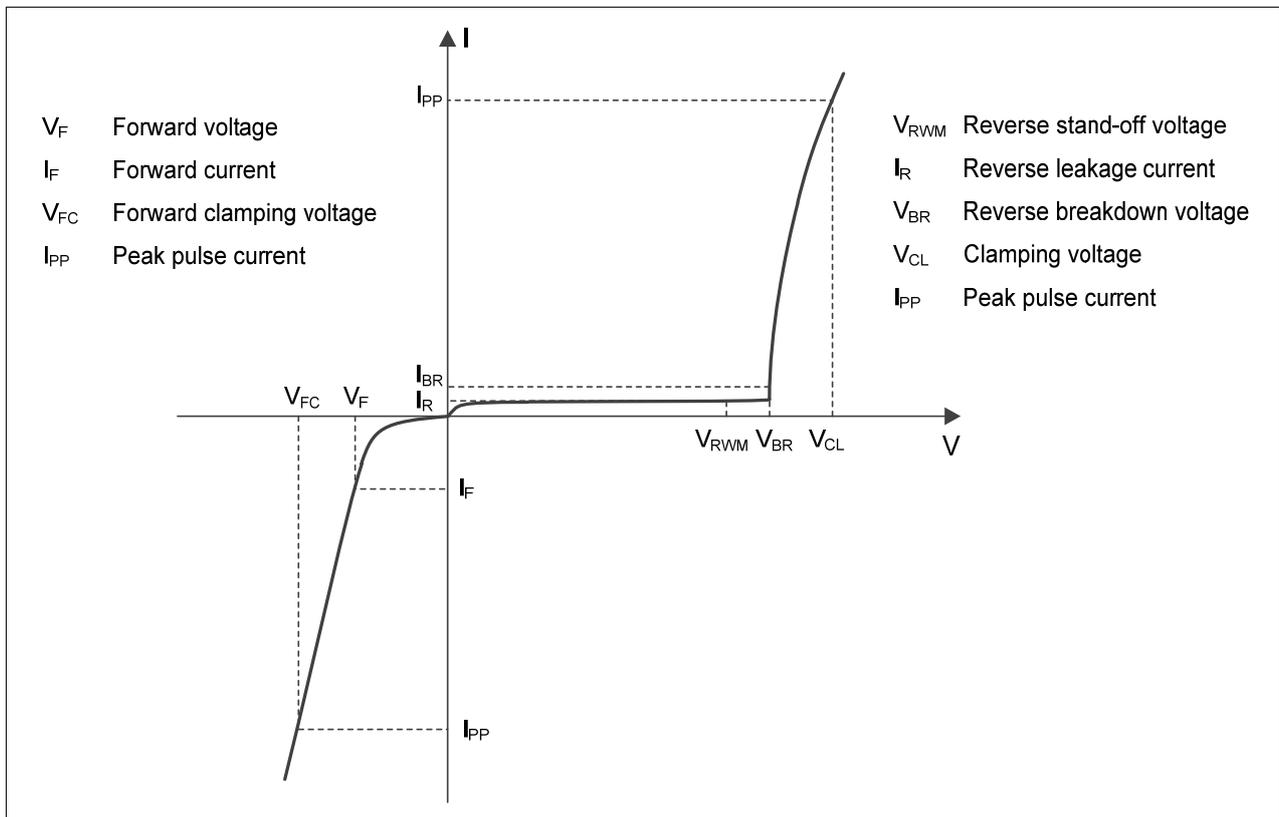
- Peripherals
- Industrial Equipment
- Notebook Computers
- Portable Instrumentation
- Microprocessor Based Equipment
- Cell Phone Handsets and Accessories
- Personal Digital Assistants (PDAs) and Pagers

Mechanical Characteristics

- Package: SOT-353
- Case Material: "Green" Molding Compound.
- Marking Information: See Below



■ Definitions of electrical characteristics





ESD0514T3

■Absolute Maximum Ratings (Ta=25°C unless otherwise specified)

PARAMETER	SYMBOL	Rating	UNIT
Peak pulse power ($t_p = 8/20\mu s$)	P_{pk}	96	W
Peak pulse current ($t_p = 8/20\mu s$)	I_{PP}	8	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	± 30	KV
ESD according to IEC61000-4-2 contact discharge		± 30	KV
Junction temperature	T_J	-55~125	°C
Storage temperature	T_{STG}	-55~150	°C

■Electrical Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V				5
Reverse leakage current	I_R	μA	$V_{RWM} = 5V$			0.2
Reverse breakdown voltage	V_{BR}	V	$I_{BR} = 1mA$	6		8.5
Clamping voltage ³⁾	V_{CL}	V	$I_{PP} = 1A, t_p = 8/20\mu s$			9
		V	$I_{PP} = 8A, t_p = 8/20\mu s$			12
Junction capacitance	C_J	pF	$V_R = 0V, f = 1MHz$		60	

(1). TLP parameter: $Z_0 = 50\Omega$, $t_p = 100ns$, $t_r = 2ns$, averaging window from 60ns to 80ns. R_{DYN} is calculated from 4A to 16A.

(2). Contact discharge mode, according to IEC61000-4-2.

(3). Non-repetitive current pulse, according to IEC61000-4-5.

■Ordering Information (Example)

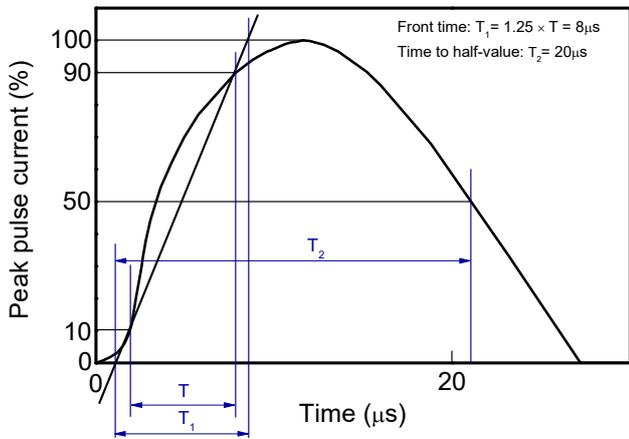
PREFERRED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD0514T3	F2	Approximate 7	3000	30000	120000	7" reel



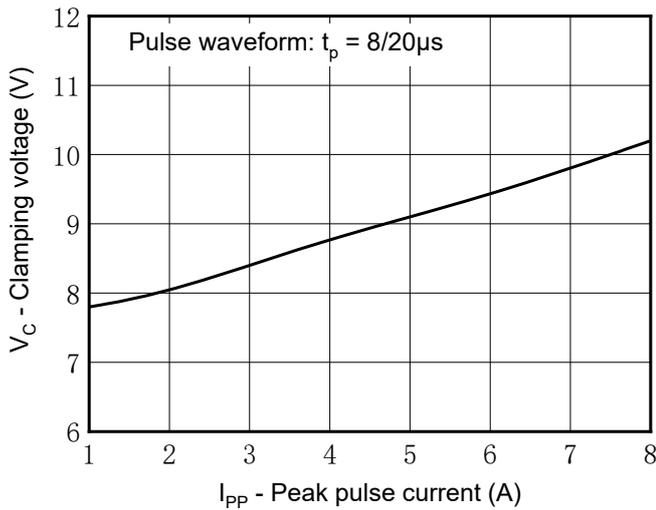
ESD0514T3

■ Typical Performance Characteristics (Ta=25°C unless otherwise Specified)

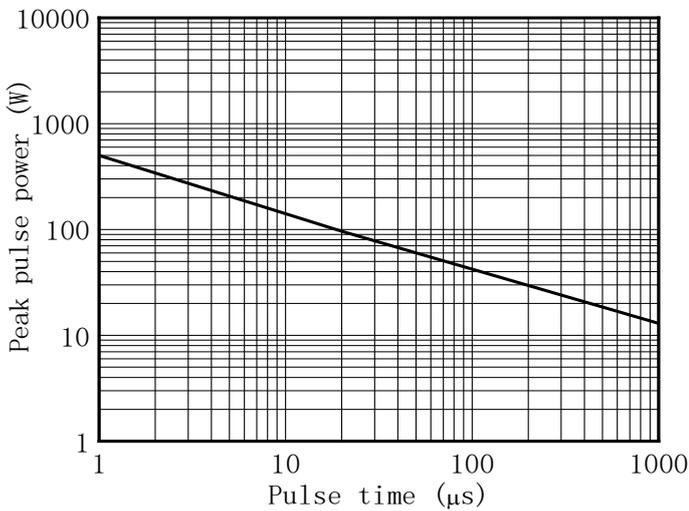
8/20μs waveform per IEC61000-4-5



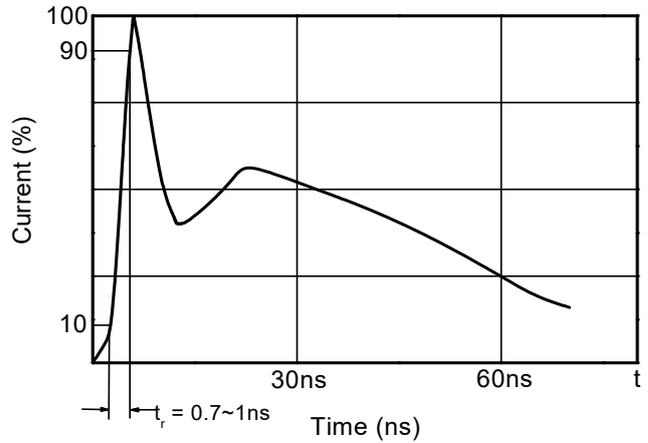
Clamping voltage vs. Peak pulse current



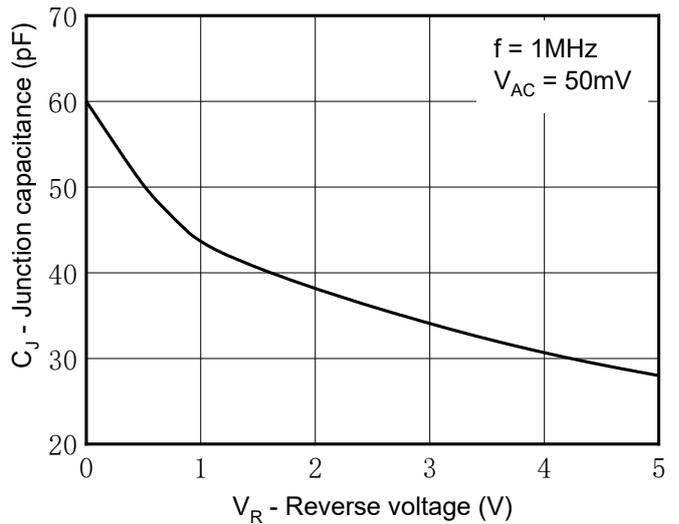
Non-repetitive peak pulse power vs. Pulse time



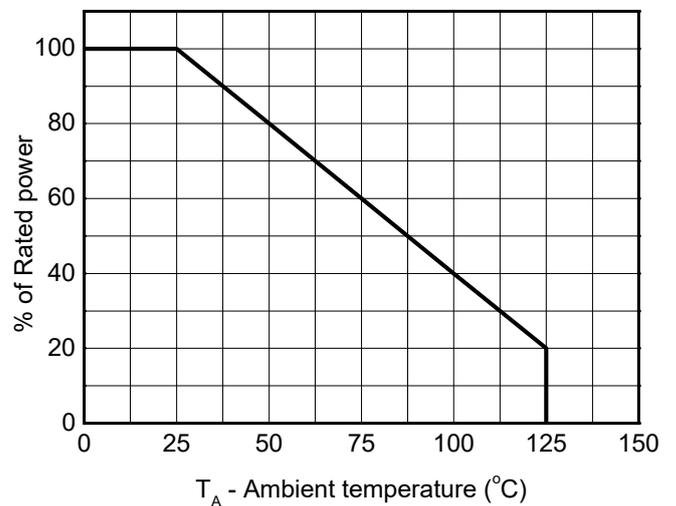
Contact discharge current waveform per IEC61000-4-2



Capacitance vs. Reverse voltage



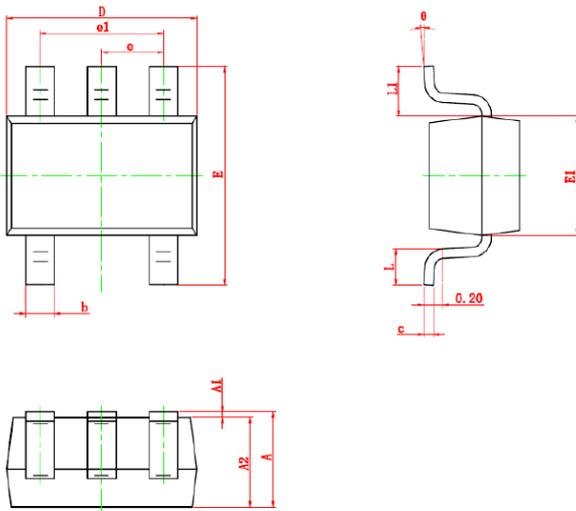
Power derating vs. Ambient temperature





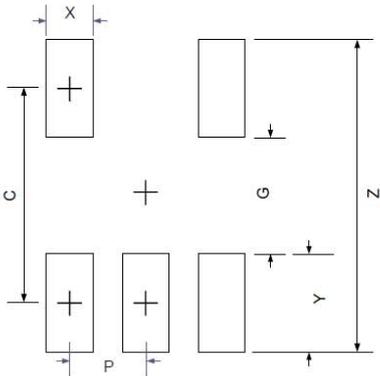
ESD0514T3

■ Outline Dimensions



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.900	-	1.100	0.035	-	0.043
A1	0.000	-	0.100	0.000	-	0.004
A2	0.900	-	1.000	0.035	-	0.039
b	0.150	-	0.350	0.006	-	0.014
c	0.080	-	0.150	0.003	-	0.006
D	2.000	-	2.200	0.079	-	0.087
E	2.150	-	2.450	0.085	-	0.096
E1	1.150	-	1.350	0.045	-	0.053
e	0.650 TYP.			0.026 TYP.		
e1	1.200	-	1.400	0.047	-	0.055
L	0.260	-	0.460	0.010	-	0.018
L1	0.525 REF.			0.021 REF.		
θ	0°	-	8°	0°	-	8°

■ Recommend land pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
C	1.85	0.073
G	1.00	0.039
P	0.65	0.026
X	0.40	0.016
Y	0.85	0.033
Z	2.70	0.106

Notes:

This recommended land pattern is for reference purposes only. Please consult your manufacturing group to ensure your PCB design guidelines are met



ESD0514T3

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