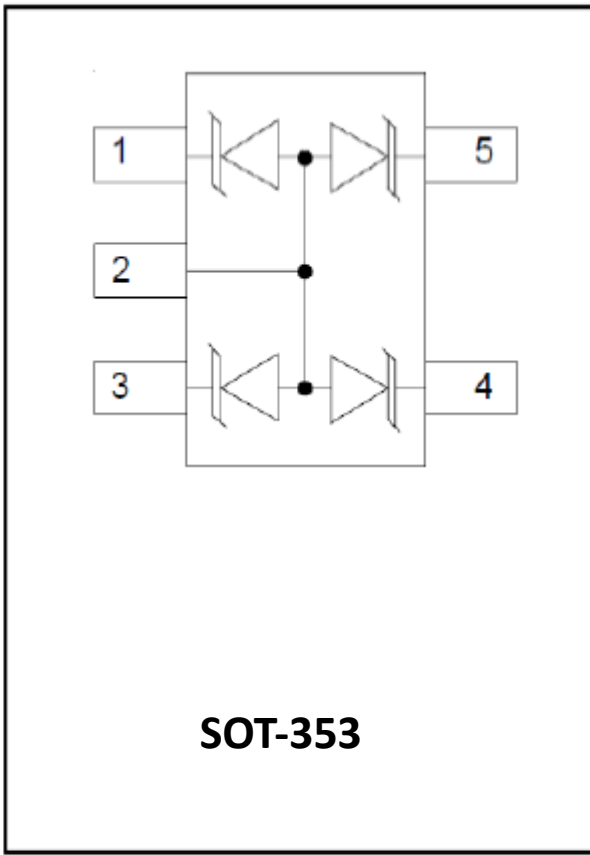


## 1-Line, Uni-directional, Transient Voltage Suppressor



### Features

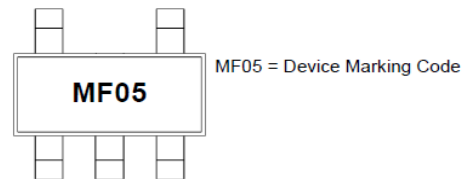
- Ultra small package
- Stand-off voltage: 5V Max
- Transient protection for each line according to  
IEC61000-4-2(ESD):  $\pm 30\text{kV}$  (contact)  
IEC61000-4-5(surge): 15A (8/20 $\mu\text{s}$ )
- Low leakage current
- Low clamping voltage
- RoHS Compliant

### Applications

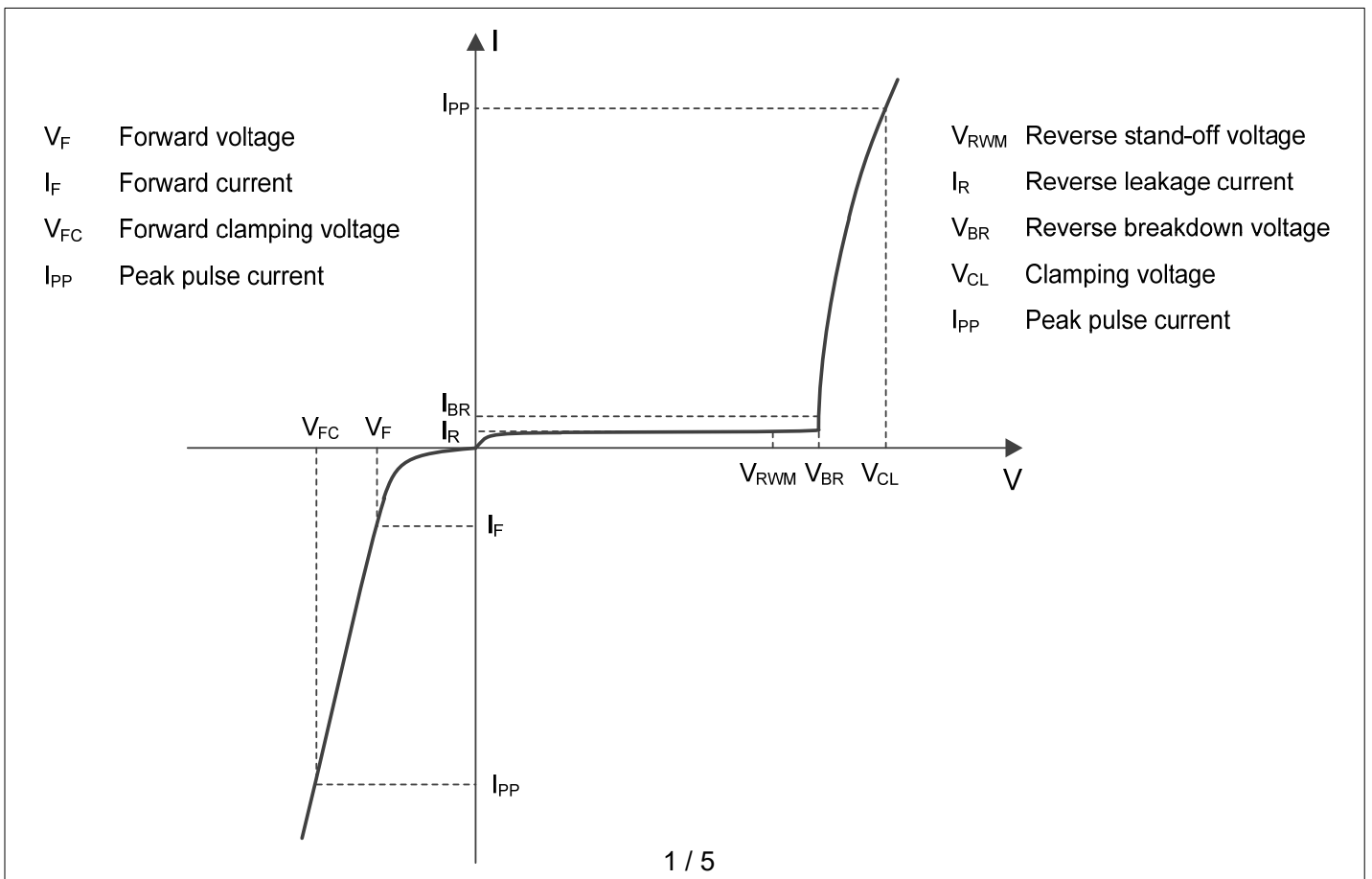
- Peripherals
- Industrial Equipment
- Notebook Computers
- Portable Instrumentation
- Microprocessor Based Equipment
- Cell Phone Handsets and Accessories
- Personal Digital Assistants (PDAs) and Pagers

### Mechanical Characteristics

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



### ■ Definitions of electrical characteristics





# ESD0524T3

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

PARAMETER	SYMBOL	Rating	UNIT
Peak pulse power ( $t_p = 8/20\mu s$ )	$P_{pk}$	210	W
Peak pulse current ( $t_p = 8/20\mu s$ )	$I_{PP}$	15	A
ESD according to IEC61000-4-2 air discharge	$V_{ESD}$	$\pm 30$	KV
ESD according to IEC61000-4-2 contact discharge		$\pm 30$	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	$I_R$	$\mu A$	$V_{RWM} = 5V$			1
Reverse breakdown voltage	$V_{BR}$	V	$I_{BR} = 1mA$	6		
Clamping voltage <sup>3)</sup>	$V_{CL}$	V	$I_{PP} = 1A, t_p = 8/20\mu s$			9
		V	$I_{PP} = 15A, t_p = 8/20\mu s$			14
Junction capacitance	$C_J$	$\mu F$	$V_R = 0V, f = 1MHz$		100	

(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)

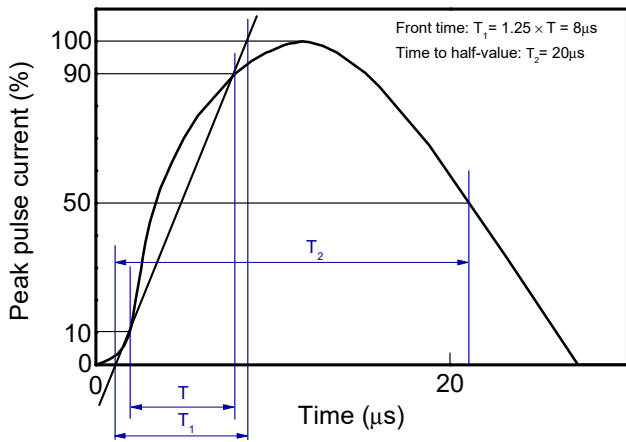
PREFERRED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD0524T3	F2	Approximate 7	3000	30000	120000	7" reel



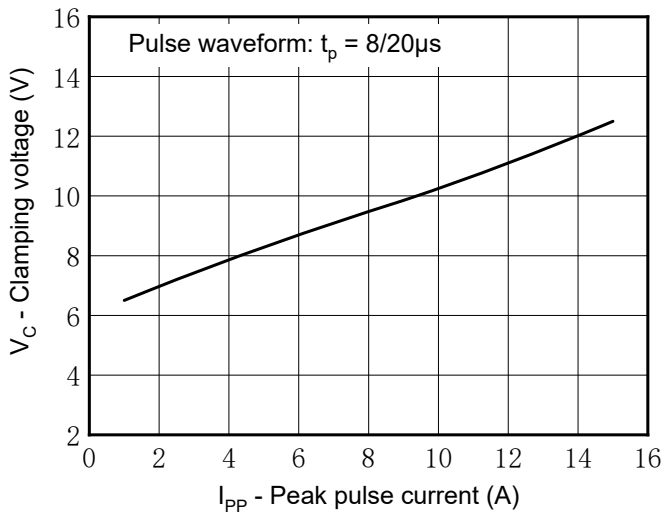
# ESD0524T3

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

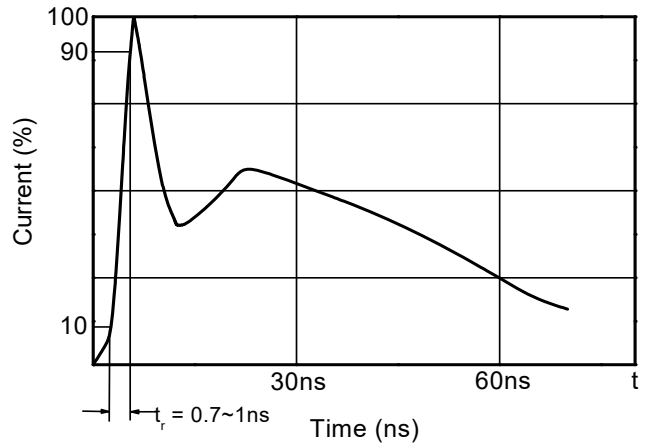
8/20μs waveform per IEC61000-4-5



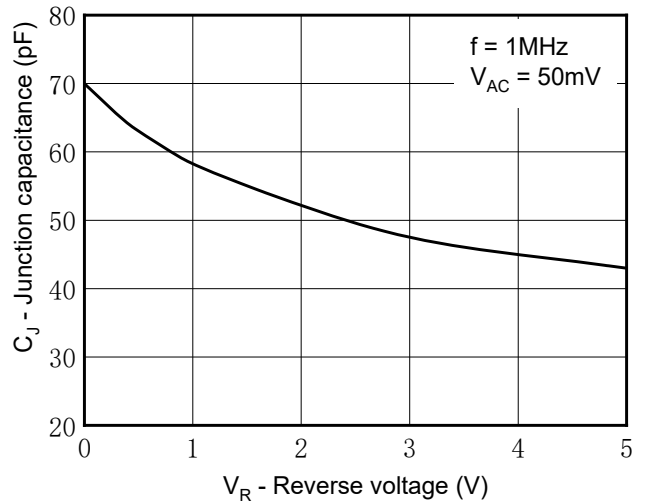
Clamping voltage vs. Peak pulse current



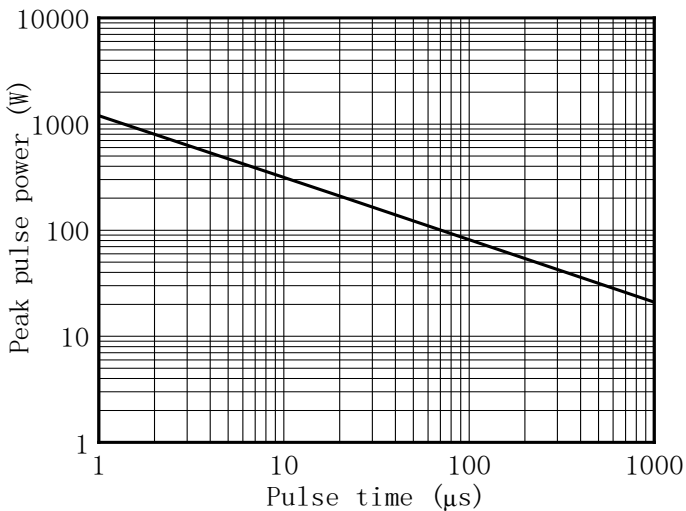
Contact discharge current waveform per IEC61000-4-2



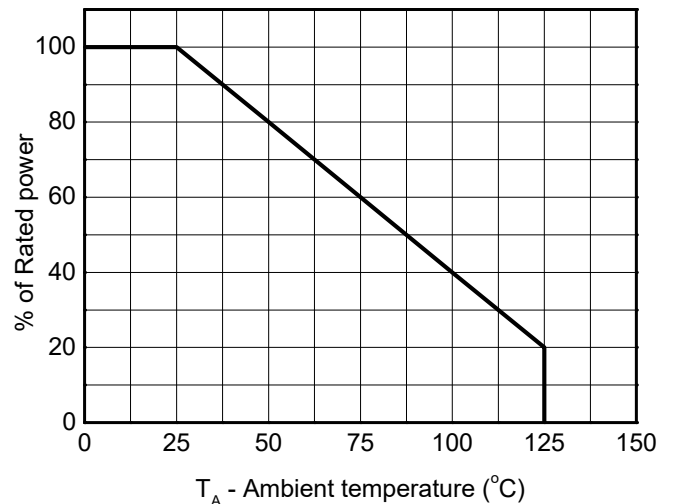
Capacitance vs. Reverse voltage



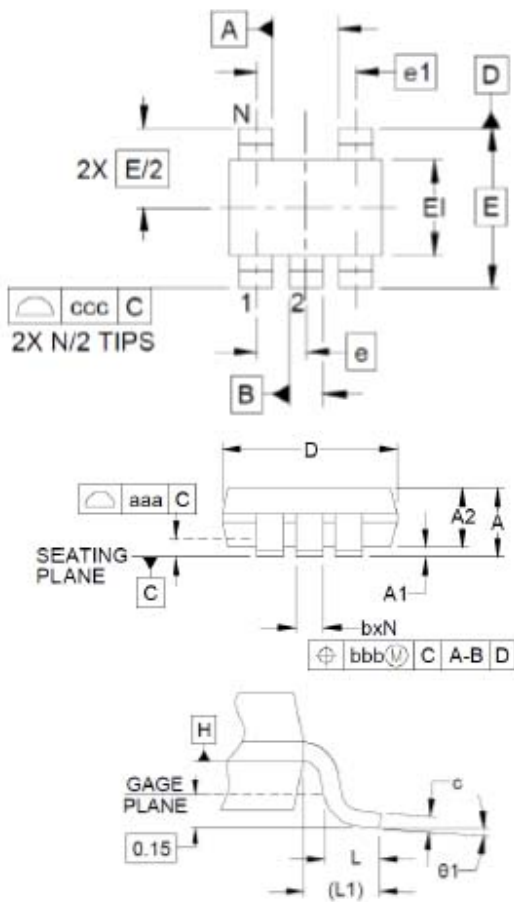
Non-repetitive peak pulse power vs. Pulse time



Power derating vs. Ambient temperature

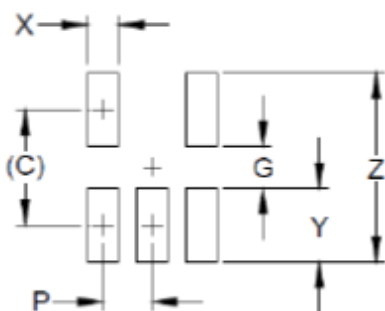


## ■ Outline Dimensions



DIMENSIONS						
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	.075	.079	.083	1.90	2.00	2.10
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	5			5		
$\theta_1$	0°	-	8°	0°	-	8°
aaa	.004			0.10		
bbb	.004			0.10		
ccc	.012			0.30		

## ■ 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



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