

**Applications**

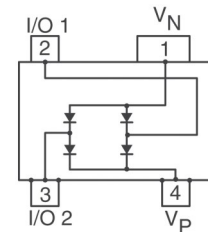
- USB power & Data line protection
- Portable electronics
- Video/graphic cards
- WAN/LAN Equipment
- Ethernet=10/100/1000 base T

**Feature**

- Lead free as Standard
- ESD Protection:Level 4
- Low clamping voltage
- Protection one power line and two data lines

**IEC Compatibility**

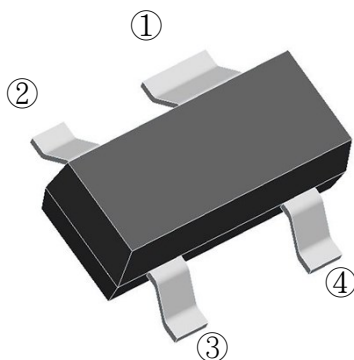
- EN61000-4
- 61000-4-2(ESD):Level4 ,Contact:±8kv,Air:±15kv
- 61000-4-4(EFT):40A-5/50ns
- 61000-4-5(Surge):24A,8/20us


**SOT143**

**Mechanical Characteristics**

- Molded JEDEC Sot-143
- The Futurewafer® device will meet IEC61000-4-2(ESD)
- Flammability rating UL 94V-0
- Halogen Free

**Device Characteristics**

<b>Maximum Ratings@25 unless otherwise specified</b>			
Parameter	Symbol	Value	Units
Peak pulse power (tp=8/20us) see fig 1.	PPP	150	Watts
Storage Temperature	TSTG	-55~150	°C
Peak Pulse Current(tp=8/20us)	I <sub>PP</sub>	24	A
Electrostatic Discharge	V <sub>ESD</sub>	>8(Contact)	kv
Max.operating temperature	T <sub>j</sub>	+125	°C



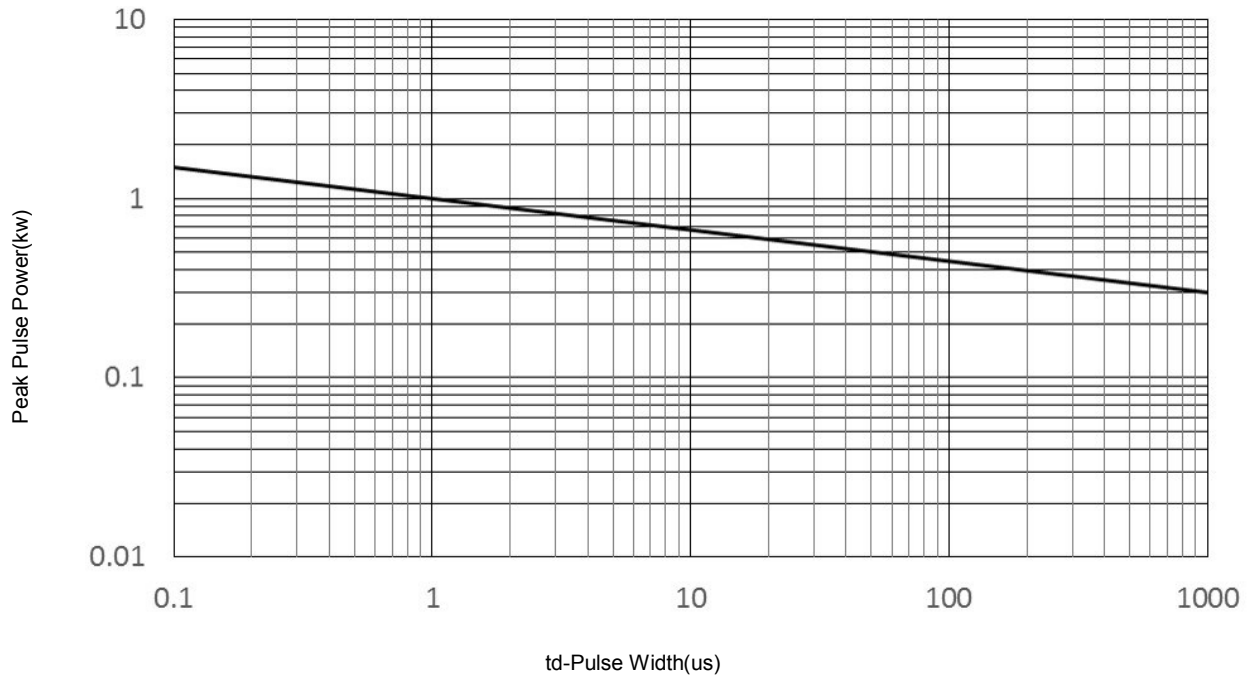
Pin	Identification
2,3	Input lines
4	Vcc
1	Ground

**Electrical Characteristics**

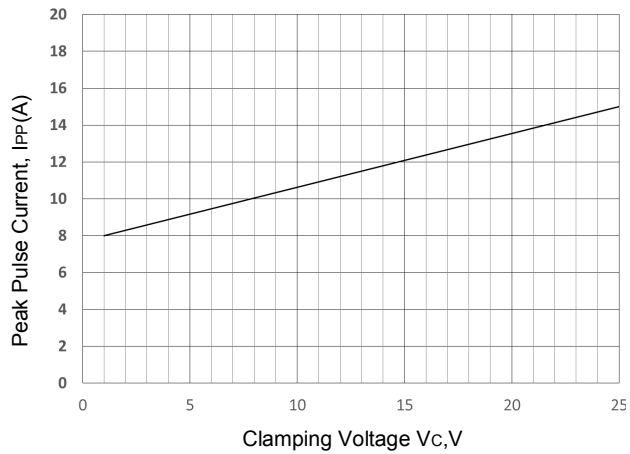
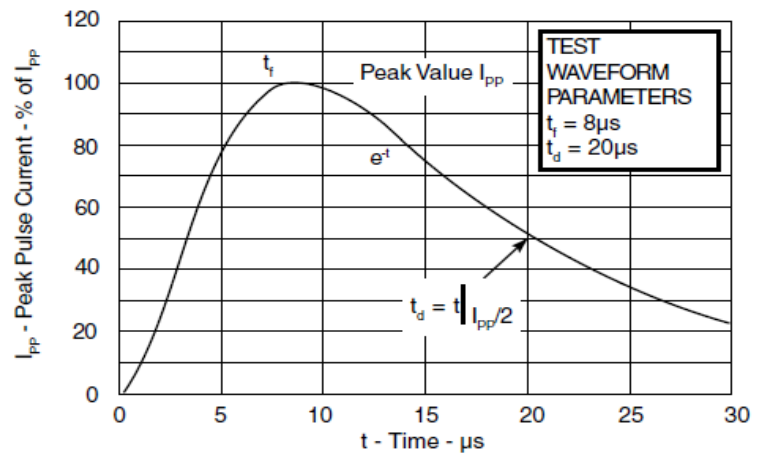
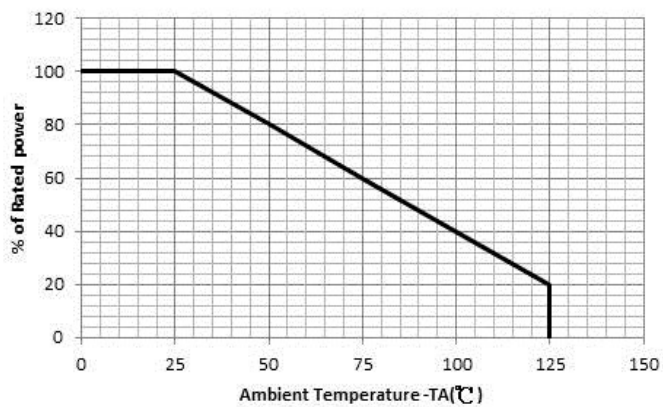
Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	VRWM	-			70	V
Reverse Breakdown Voltage	VBR	Iz=1mA	85			V
Reverse Leakage Current	IR	VR=5V			5	uA
Forward Voltage	VF	IF=15mA			1.15	V
Clamping Voltage	VC	I <sub>PP</sub> =1A, t <sub>p</sub> =8/20us I <sub>PP</sub> =10A, t <sub>p</sub> =8/20us I <sub>PP</sub> =24A, t <sub>p</sub> =8/20us			1.5 3.3 7	V
Junction Capacitance	C I/O-I/O	Vdc=0V, f=1MHZ		3		pf
Junction Capacitance	C I/O-GND	Vdc=0V, f=1MHZ		5	10	pf

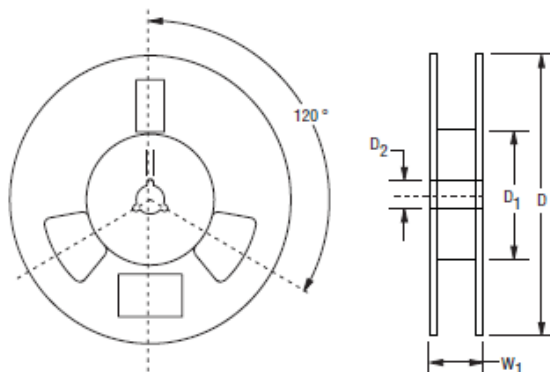
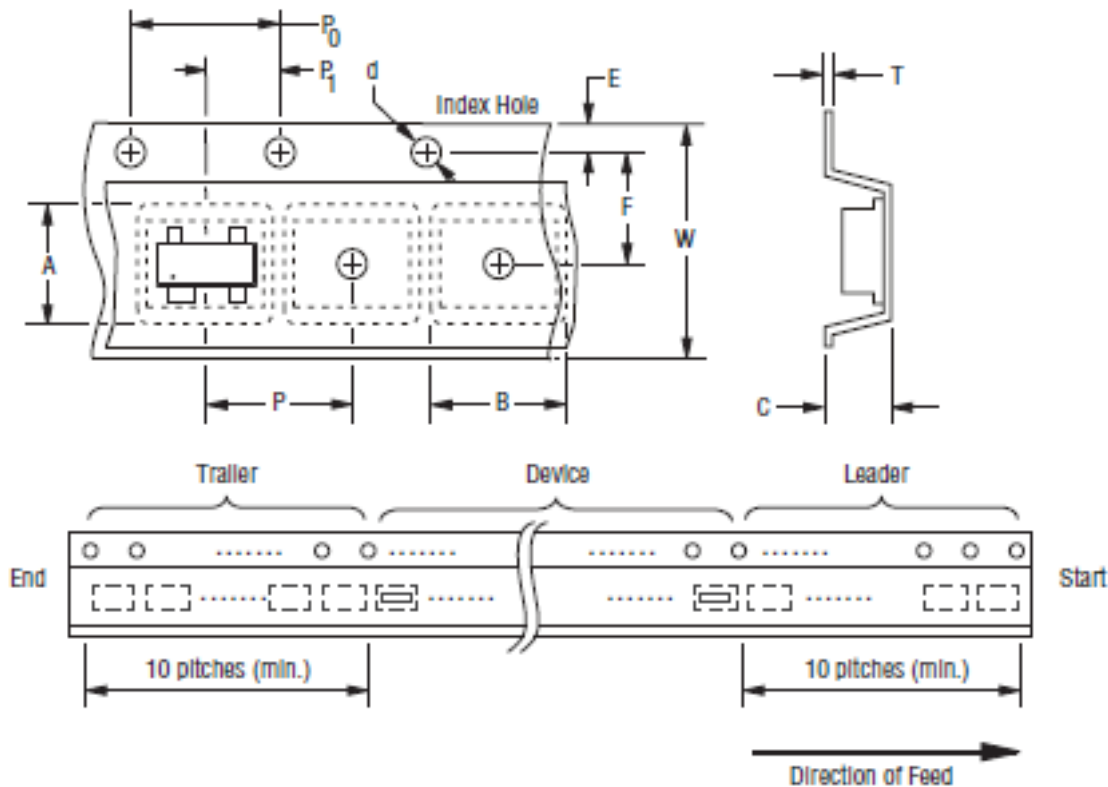
**Rating and characteristic curve**

FIGURE 1  
Non-repetitive Peak pulse power V.S pulse time



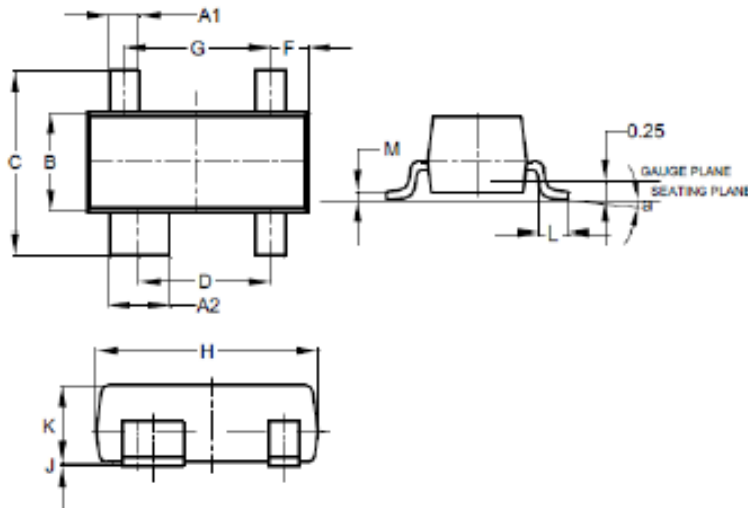
## Rating and characteristic curve

 FIGURE 2  
Clamping Voltage VC Map Pin4 to 1

 FIGURE 3  
Pulse Wave Form

 FIGURE 4  
Power Derating Curve


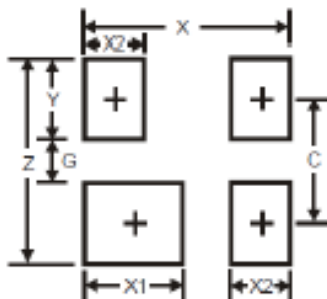
**Tape & Reel information**


DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

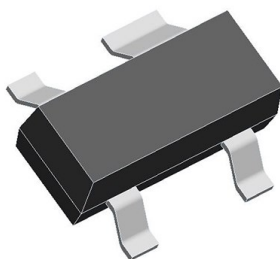
Item	Symbol	SOT-143
Carrier Width	A	$\frac{2.75 \pm 0.10}{(0.108 - 0.004)}$
Carrier Length	B	$\frac{3.30 \pm 0.10}{(0.130 - 0.004)}$
Carrier Depth	C	$\frac{1.25 \pm 0.10}{(0.049 - 0.004)}$
Sprocket Hole	d	$\frac{1.55 \pm 0.05}{(0.061 - 0.002)}$
Reel Outside Diameter	D	$\frac{178}{(7.008)}$
Reel Inner Diameter	D <sub>1</sub>	$\frac{50.0}{(1.969)}$ Min.
Feed Hole Diameter	D <sub>2</sub>	$\frac{13.0 \pm 0.20}{(0.512 - 0.008)}$
Sprocket Hole Position	E	$\frac{1.75 \pm 0.10}{(0.069 - 0.004)}$
Punch Hole Position	F	$\frac{3.50 \pm 0.05}{(0.138 - 0.002)}$
Punch Hole Pitch	P	$\frac{4.00 \pm 0.10}{(0.157 - 0.004)}$
Sprocket Hole Pitch	P <sub>0</sub>	$\frac{4.00 \pm 0.10}{(0.157 - 0.004)}$
Embossment Center	P <sub>1</sub>	$\frac{2.00 \pm 0.05}{(0.079 - 0.002)}$
Overall Tape Thickness	T	$\frac{0.20 \pm 0.10}{(0.008 - 0.004)}$
Tape Width	W	$\frac{8.00 \pm 0.20}{(0.315 - 0.008)}$
Reel Width	W <sub>1</sub>	$\frac{14.4}{(0.567)}$ Max.
Quantity per Reel	—	3,000

**Package Information**


SOT143			
Dim	Min	Max	Typ
A1	0.37	0.51	0.400
A2	0.77	0.93	0.800
B	1.20	1.40	1.30
C	2.28	2.48	2.38
D	1.58	1.83	1.72
F	0.45	0.60	0.49
G	1.78	2.03	1.92
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.89	1.00	-
L	0.46	0.60	0.50
M	0.085	0.18	0.11
a	0°	8°	-
All Dimensions in mm			

**Pad Layout**


Dimensions	Value (in mm)
Z	2.70
G	1.30
X	2.50
X1	1.0
X2	0.60
Y	0.70
C	2.0

**Ordering information**


Part Number	Component Package	Quantity	Packaging Option
SR70	SOT143	3,000	Tape&reel-8mm tape/7"reel



Futurewafer Technology co.,Ltd 台灣未來芯航電股份有限公司

Tel : +886-3-3573583 / Fax : +886-3-3574065

Futurewafer.com.tw

桃園市桃園區中正路 987 巷 50 弄 2 號