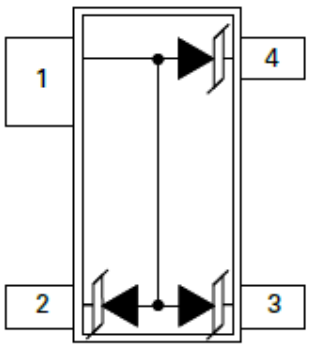
Features

- 150 Watts peak pulse power (tp = 8/20μs)
- Transient protection for high speed data lines to
  IEC 61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
  IEC 61000-4-4 (EFT) 40A (5/50ns)
- Protects two bidirectional line or four unidirectional lines
- Low operating and clamping voltages
- Solid-state silicon avalanche technology



SOT143

Applications

- Notebooks, Desktops, Servers and Video Graphics Cards
- USB Power & Data Line Protection
- Monitors and Flat Panel Displays
- I²C Bus Protection
- Portable Instrumentation
- Set Top Box

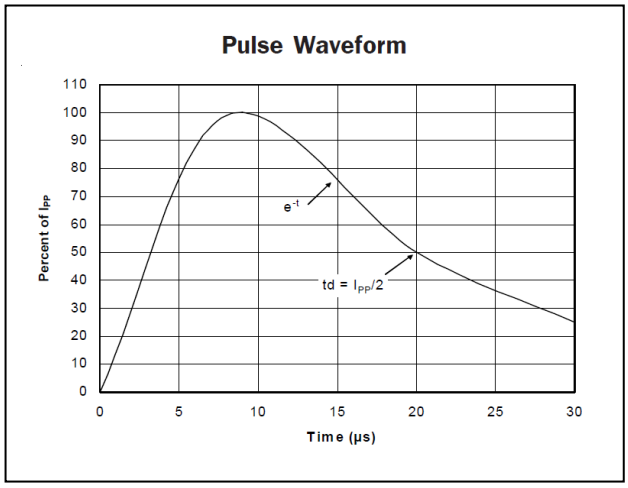
Maximum Rating @ Ta=25℃ unless otherwise specified

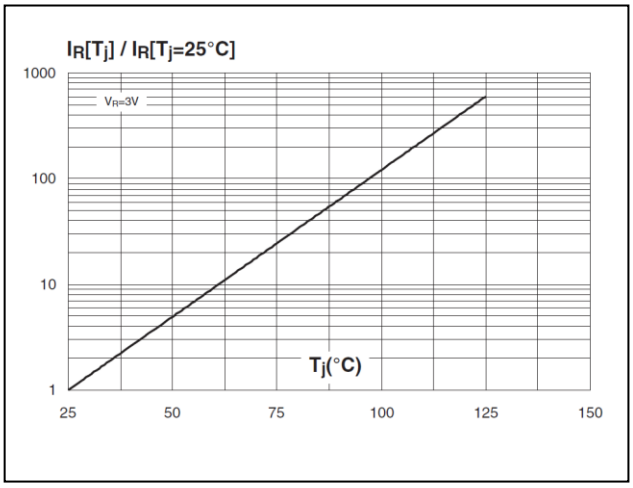
Symbol	Parameter	Ratings	Units
P_{PK}	Peak Pulse Power (tp = 8/20μs)	150	Watts
T_L	Lead Soldering Temperature	260(10sec.)	℃
T_J	Operating Temperature	-55 to +125	℃
T_{STG}	Storage Temperature	-55 to +150	℃

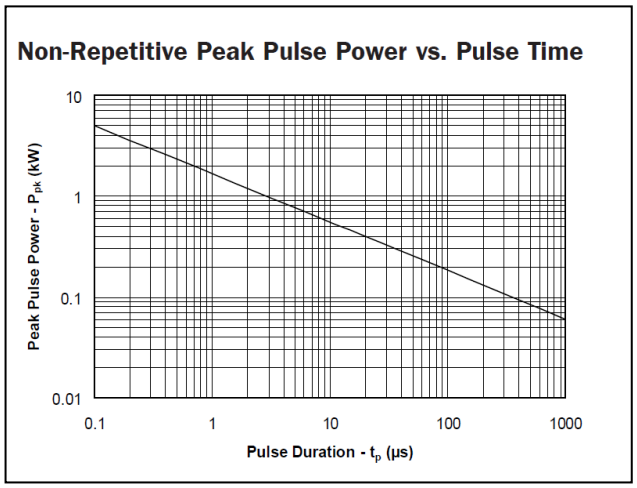
Electrical Characteristics@ Ta=25℃ unless otherwise

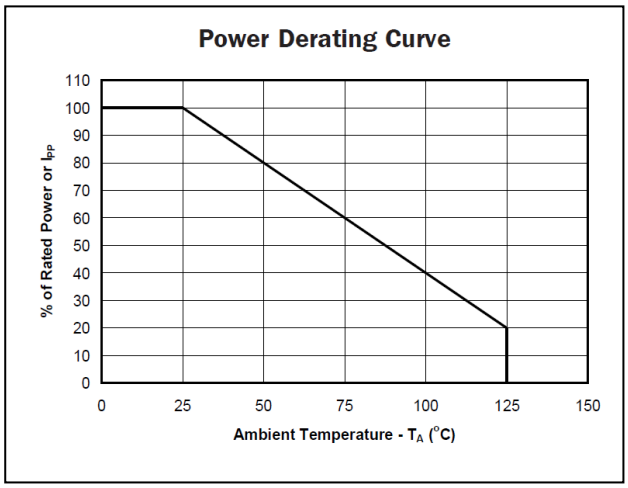
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
V_{RWM}	Reverse Working Voltage	Any I/O to Ground			5.0	V
V_{BR}	Reverse Breakdown Voltage	I_T = 1mA, Any I/O to Ground	6.0			V
I_R	Reverse Leakage Current	V_{RWM} = 5V, Any I/O to Ground			1	μA
V_C	Clamping Voltage	I_{PP} = 1A, tp =8/20μs, any I/O pin to Ground			10	V
		I_{PP} = 10A, tp =8/20μs, any I/O pin to Ground			15	V
C_J	Junction Capacitance	V_R = 0V, f = 1MHz, between I/O pins		40	50	pF
		V_R = 0V, f = 1MHz, any I/O pin to Ground		80	100	pF

Typical Characteristics@ Ta=25℃ unless otherwise specified



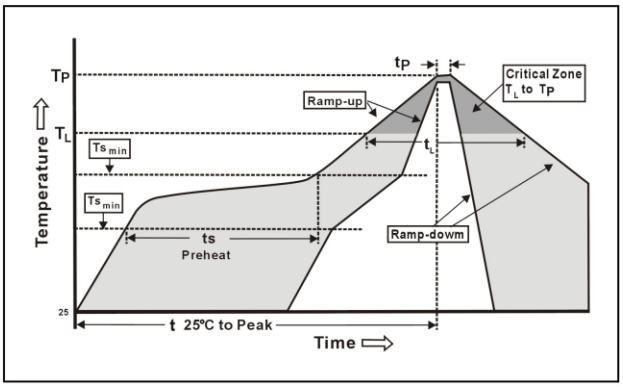






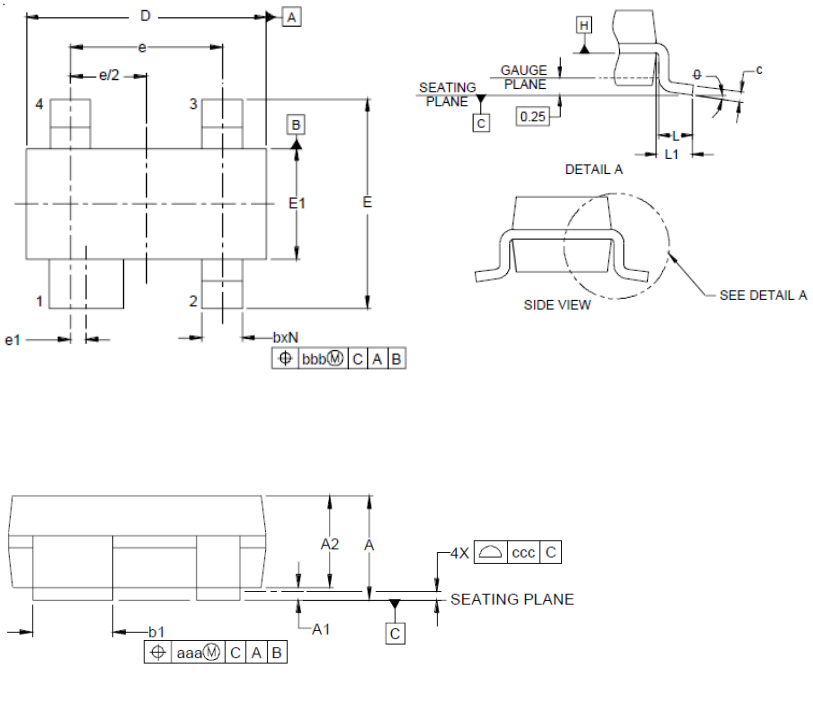
Soldering Parameters

Reflow Condition		Fb – Free assembly
Pre Heat	-Temperature Min ($T_{s(Min)}$)	150°C
	-Temperature Max ($T_{s(Max)}$)	200°C
	-Time (Min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus) Temp (T_L) to peak		3°C/second Max
$T_{S(Max)}$ to T_L - Ramp-up Rate		3°C/second Max
Reflow	-Temperature (T_L) (Liquidus)	217°C
	-Temperature (t_L)	60 – 150 seconds
Peak Temperature (T_p)		$250^{+0/-5}$ °C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-dowm Rate		6°C/second Max
Time 25°C to peak Temperature (T_p)		8 minutes Max.
Do not exceed		260°C



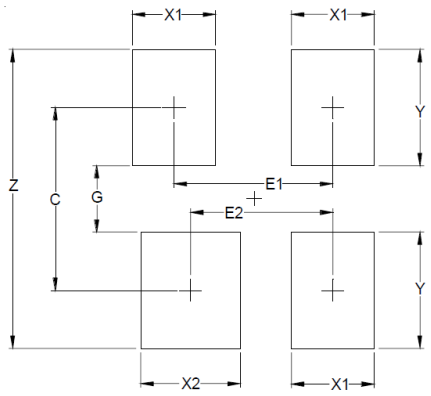
Package Outline

Plastic surface mounted package SOT143



DIM	DIMENSIONS					
	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	.031	-	.048	0.80	-	1.22
A1	.000	-	.006	0.013	-	0.15
A2	.029	.035	.042	0.75	0.90	1.07
b	.011	-	.020	0.30	-	0.51
b1	.029	-	.037	0.76	-	0.94
c	.003	-	.008	0.08	-	0.20
D	.110	.114	.120	2.80	2.90	3.04
E	.082	.093	.104	2.10	2.37	2.64
E1	.047	.051	.055	1.20	1.30	1.40
e	.075			1.92 BSC		
e1	.008			0.20 BSC		
L	.015	.020	.024	0.40	0.50	0.60
L1	(.021)			(0.54)		
N	4			4		
θ	0°	-	8°	0°	-	8°
aaa	.006			0.15		
bbb	.008			0.20		
ccc	.004			0.10		

Soldering Footprint



DIMENSIONS		
DIM	INCHES	MILLIMETERS
C	(.087)	(2.20)
E1	.076	1.92
E2	.068	1.72
G	.031	0.80
X1	.039	1.00
X2	.047	1.20
Y	.055	1.40
Z	.141	3.60

Package And Marking Information

Device	Package	Shipping	Reel Size
ZX0503B	SOT143	3000/Reel	7 inch