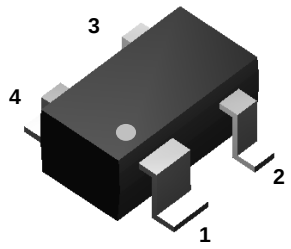
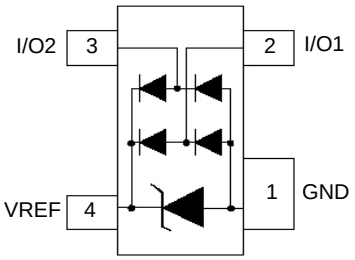
Low Capacitance TVS and Diode Array

This diode array is configured to protect up to two data transmission lines acting as a line terminator, minimizing overshoot and undershoot conditions due to bus impedance as well as protect against over-voltage events as electrostatic discharges. Additionaly the TVS Device offers overvoltage transient protection between the operating voltage bus and ground plane.





SOT143

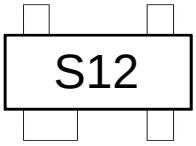
SPECIFICATION FEATURES

- **Peak Power Dissipation of 500W 8/20μs**
- **Maximum Capacitance of 5.0pF at 0Vdc 1MHz Line-to-Ground**
- **Maximum Leakage Current of 1μA @ VRWM**
- **Industry Standard SMT Package SOT143**
- **IEC61000-4-2, IEC61000-4-4 and IEC61000-4-5 Full Compliance**
- **100% Tin Matte finish (LEAD-FREE PRODUCT)**

APPLICATIONS

- **RS422 Interface**
- **LAN/WLAN Access Point terminals**
- **Industrial control communication ports**
- **I^2C Bus Protection**

Marking Code:



MAXIMUM RATINGS Tj = 25°C Unless otherwise noted

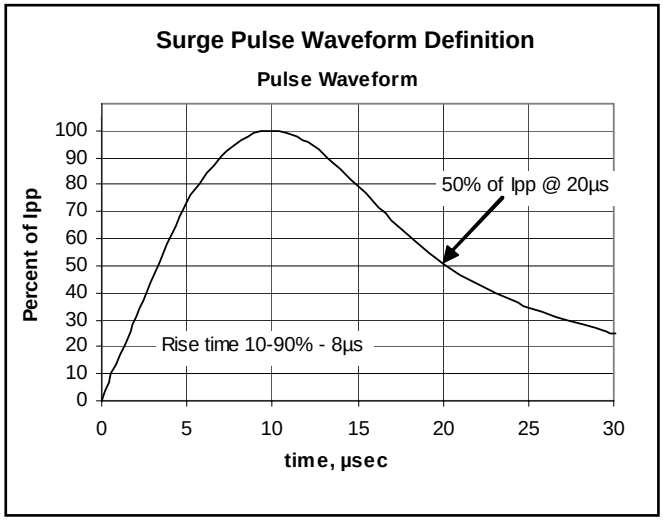
Rating	Symbol	Value	Units
Peak Pulse Power (8/20μs Waveform)	P_{PPM}	500	W
Peak Pulse Current (8/20μs Waveform)	I_{PP}	16	A
Operating Junction Temperature Range	T_J	-55 to +125	°C
Storage Temperature Range	T_{stg}	-55 to +150	°C
Soldering Temperature, t max = 10s	T_L	260	°C

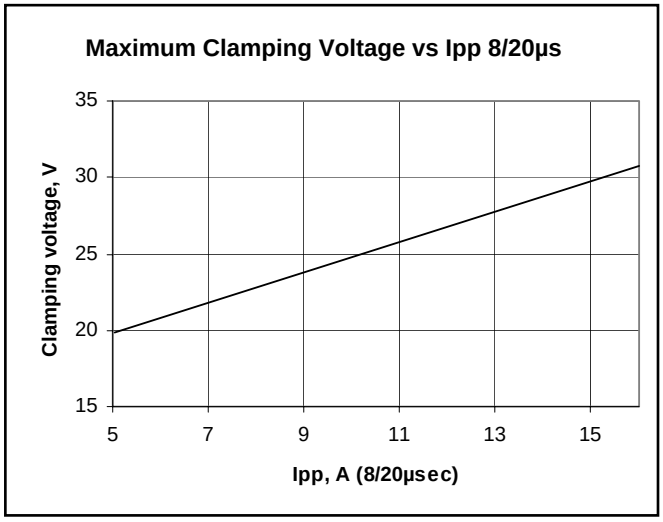
ELECTRICAL CHARACTERISTICS

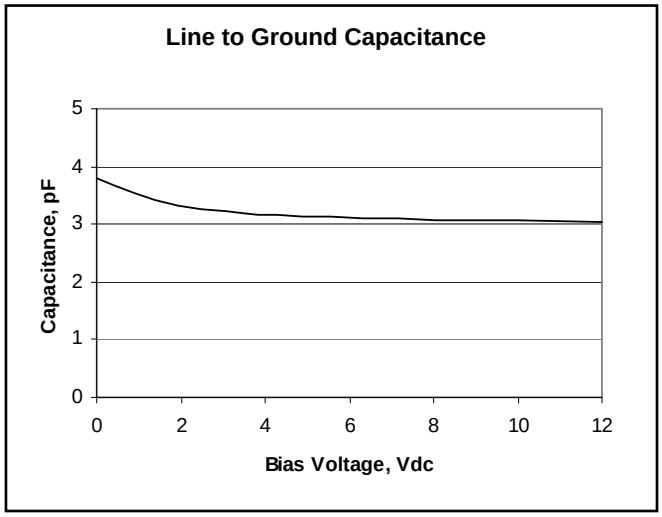
Tj = 25°C unless otherwise noted

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{WRM}				12	V
Reverse Breakdown Voltage	V_{BR}	I_{BR} = 1mA	13.3			V
Reverse Leakage Current	I_R	V_R = 12V			1	µA
Clamping Voltage (8/20µs)	V_c	I_{pp} = 5A			22	V
Clamping Voltage (8/20µs)	V_c	I_{pp} = 10A			27	V
Clamping Voltage (8/20µs)	V_c	I_{pp} = 16A			31	V
Off State Junction Capacitance	Cj	0 Vdc Bias f = 1MHz Between I/O pins and GND		3.8	5	pF
		0 Vdc Bias f = 1MHz Between I/O pins		1.4	3	pF

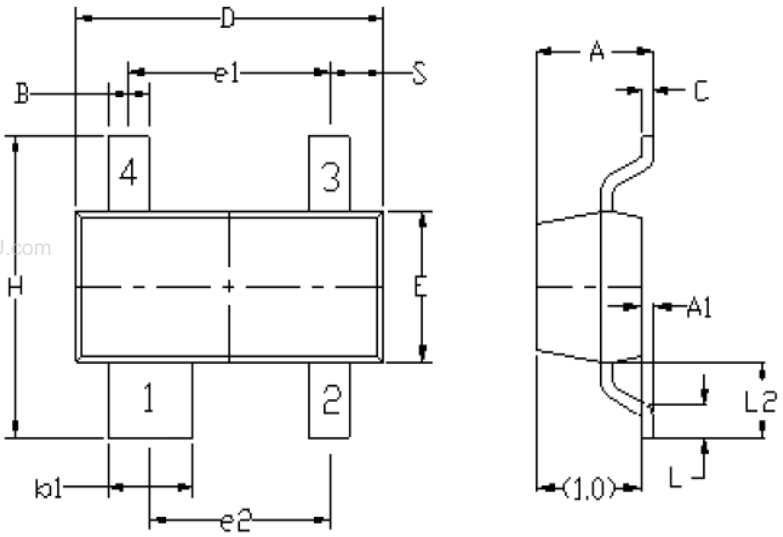
TYPICAL CHARACTERISTIC CURVES







PACKAGE DIMENSIONS - SOT143



SYMBOL	DIMENSIONS			
	INCHES		MILIMETERS	
	MIN	MAX	MIN	MAX
A	-	0.043	-	1.09
A1	0.001	0.003	0.025	0.09
B	0.015	0.018	0.370	0.455
b1	0.031	0.033	0.780	0.840
C	0.004	0.006	0.107	0.140
D	0.110	0.118	2.8	3.0
E	0.047	0.055	1.20	1.40
e1	0.071	0.079	1.80	2.00
e2	0.065	0.069	1.650	1.750
H	0.087	0.098	2.20	2.49
L	0.010	0.014	0.265	0.365
L2	0.024	0.027	0.60	0.68
S	0.018	0.022	0.450	0.550

RECOMMENDED PAD LAYOUT