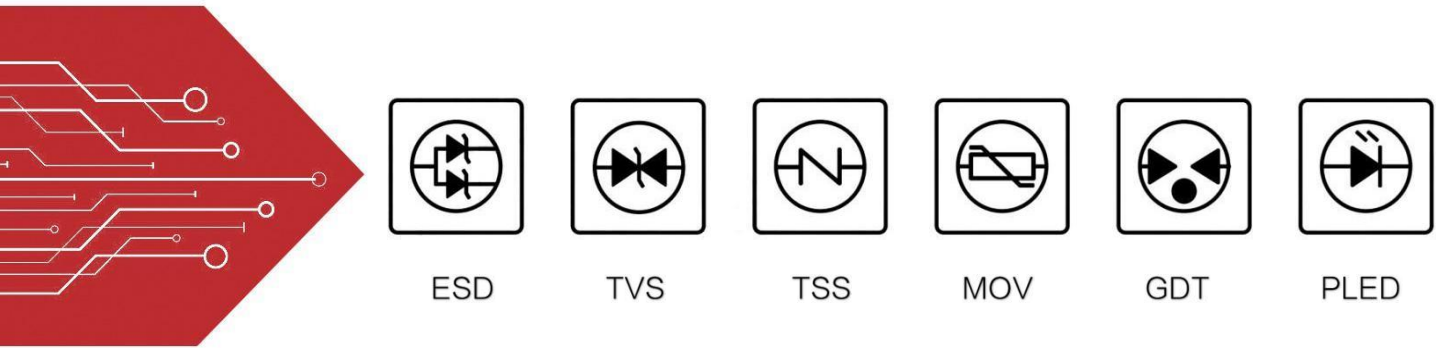
MSKSEMI
SEMICONDUCTOR



Product data sheet

Feature

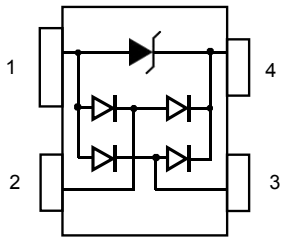
350 W Peak Power per Line (tp = 8/20μs)
SOT-143 package
ESD Protection > 15 kV
Unidirectional configurations
Protects 2 I/O Ports & Power Supply
Low Capacitance: 4 pF
Low clamping voltage
RoHS Compliant in Lead-Free Versions
Transient protection for data lines to IEC 61000-4-2(ESD)
±15KV(air) ±8KV(contact); IEC 61000-4-4 (EFT) 40A (5/50ns)

Applications

Ethernet - 10/100 Base T
Fire wire
Wireless communications
USB interface

Mechanical Characteristics

Lead finish:100% matte Sn(Tin)
Mounting position: Any
Qualified max reflow temperature:260℃
Device meets MSL 1 requirements
Pure tin plating: 7 ~ 17 um
Pin flatness：≤3mil



SOT-143

Electrical characteristics per line@(unless otherwisespecified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	I_t = 1mA	6		8.5	V
Reverse Leakage Current	I_R	V_{RWM} =5.0V, T=25℃			1	μA
Clamping Voltage	V_C	I_{PP} = 1A, t_P = 8/20μs			12.5	V
Clamping Voltage	V_C	I_{PP}=5A, t_P = 8/20μs			24.0	V
Capacitance Between IO and GND	C_J	V_R=0V, f = 1MHz		3.0		pF
Capacitance Between IO and I/O	C_J	V_R=0V, f = 1MHz		1.5		pF

Absolute maximum rating@25℃

Rating	Symbol	Value	Units
Peak Pulse Power (t_p=8/20μs)	P_{pp}	350	W
Peak Pulse Power (t_p=8/20μs)	I_{pp}	9	A
Operating Temperature	T_J	-55 to +150	℃
Storage Temperature	T_{STG}	-55 to +150	℃

Electronics Parameter

Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
P_{PP}	Peak Pulse Power
C_J	Junction Capacitance
I_F	Forward Current
V_F	Forward Voltage @ I_F

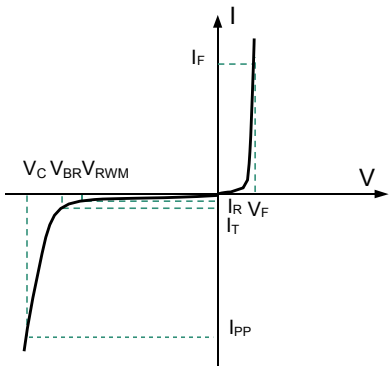


FIG1: Pulse Waveform

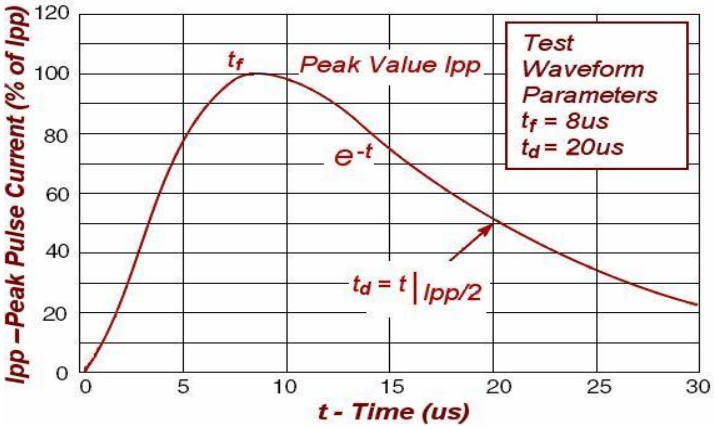
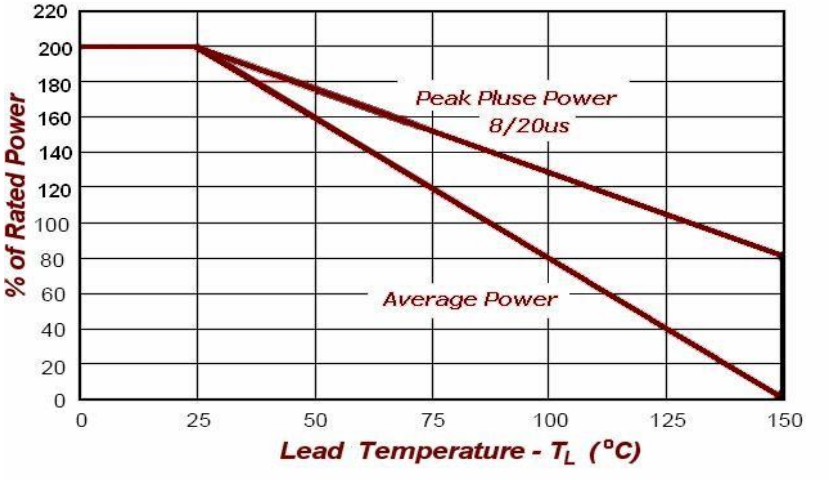
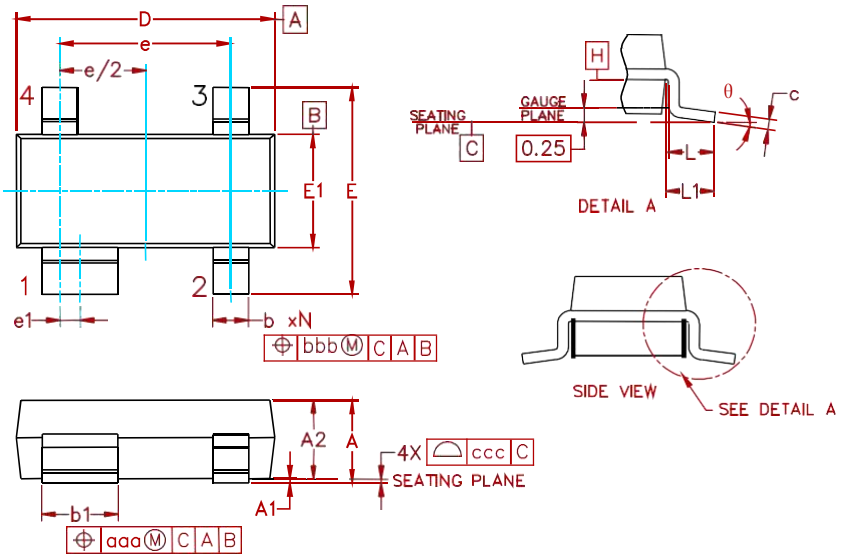


FIG2:Power Derating

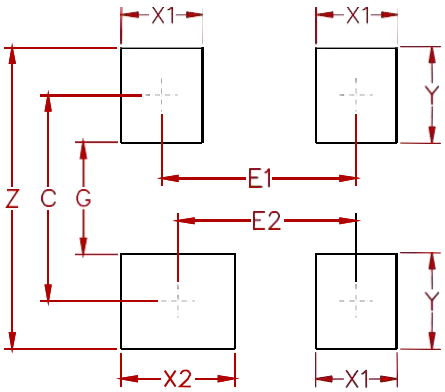


PACKAGE MECHANICAL DATA



Symbol	Inches			Millimeters		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A	0.031	-	0.048	0.80	-	1.22
A1	0.000	-	0.008	0.013	-	0.15
A2	0.020	0.035	0.042	0.75	0.90	1.07
b	0.011	-	0.020	0.30	-	0.51
b1	0.029	-	0.037	0.76	-	0.94
c	0.003	-	0.008	0.08	-	0.20
D	0.110	0.114	0.120	2.80	2.90	3.04
E	0.082	0.093	0.104	2.10	2.37	2.64
E1	0.047	0.051	0.055	1.20	1.30	1.40
e	0.075			1.92 BSC		
e1	0.008			0.20 BSC		
L	0.015	0.020	0.024	0.40	0.50	0.60
L1	(0.021)			(0.54)		
N	4			4		
θ	0°	-	8°	0°	-	8°
aaa	0.006			0.15		
bbb	0.008			0.20		
ccc	0.004			0.10		

Suggested Pad Layout



REEL SPECIFICATION

P/N	PKG	QTY
PRTR5V0U2X-MS	SOT-143	3000

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