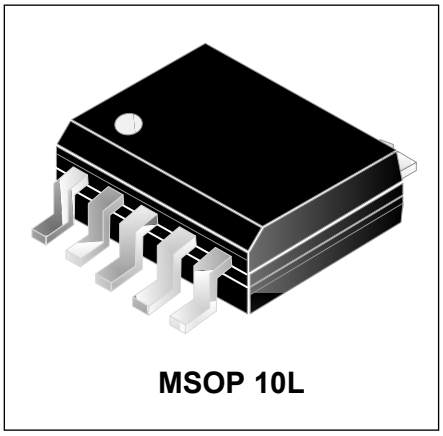
Features

- 350 Watts Peak Pulse Power per Line (t_p=8/20μs)
- Protects four I/O Lines and one V_{cc} line
- Small package saves board space
- Low capacitance
- Low clamping voltage
- Low operating voltage:5.0V



MSOP 10L

IEC Compatibility (EN61000-4)

- IEC 61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 12A (8/20μs)

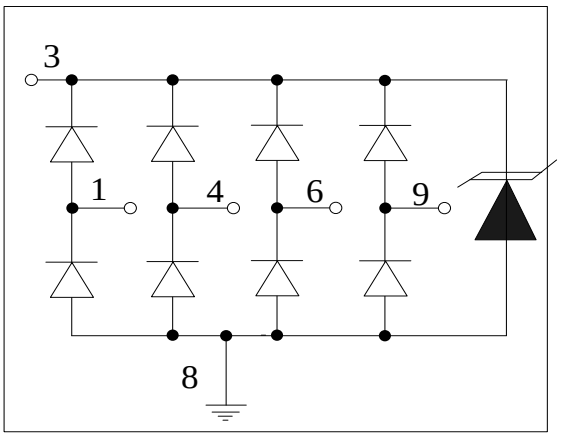
Mechanical Characteristics

- JEDEC MSOP 10L package
- Molding compound flammability rating: UL 94V-0
- Marking: Marking Code and data code
- Packaging: Tape and Reel per EIA 481
- RoHS Compliant

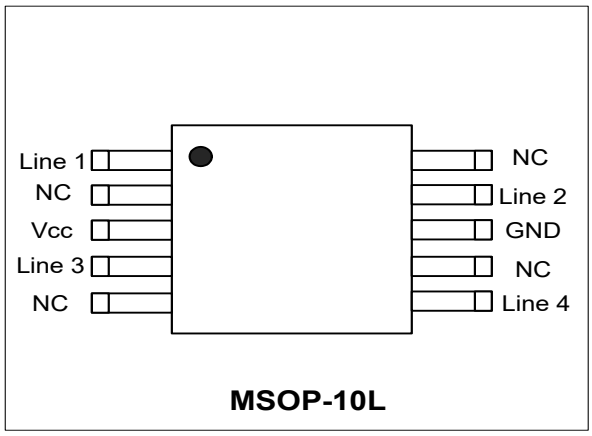
Applications

- Digital Video interface (DVI)
- Monitors and Flat Panel Displays
- Notebook Computers
- High Definition Multi-Media Interface (HDMI)
- USB 2.0 Power & Data Line Protection
- 10/100/1000 Ethernet
- Projection TV

Circuit Diagram



Schematic & PIN Configuration

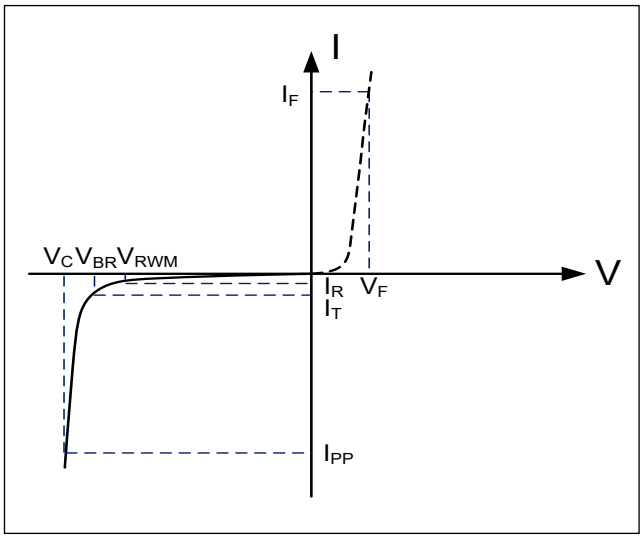


MSOP-10L

Absolute Maximum Rating			
Rating	**Symbol**	**Value**	**Units**
Peak Pulse Power (t_p =8/20μs)	P_{PP}	350	Watts
Peak Pulse Current (t_p =8/20μs)	I_{pp}	12	A
Operating Temperature	T_J	-55 to + 125	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Parameters (T=25℃)

Symbol	Parameter
I_{PP}	Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Reverse Stand-Off Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F



Electrical Characteristics

DW05-4RM-S						
Parameter	**Symbol**	**Conditions**	**Minimum**	**Typical**	**Maximum**	**Units**
Reverse Stand-Off Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	6.0			V
Reverse Leakage Current	I_R	V_{RWM}=5V, T=25℃			0.5	μA
Forward Voltage	V_F	I_F=10mA			1.5	V
Clamping Voltage	V_C	I_{PP}=1A, t_p=8/20μs Any I/O pin to GND		10	12	V
Clamping Voltage	V_C	I_{PP}=12A, t_p=8/20μs Any I/O pin to GND		22	25	V
Junction Capacitance	C_j	V_R = 0V, f = 1MHz Between I/O pins		0.7	1.0	pF
		V_R = 0V, f = 1MHz Any I/O pin to GND		1.7	2.5	pF

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

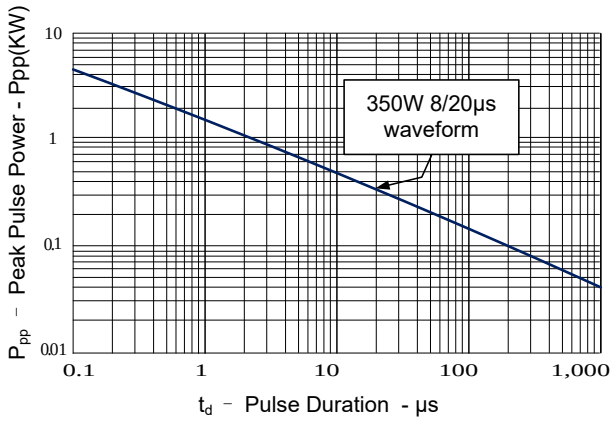


Figure 2: Power Derating Curve

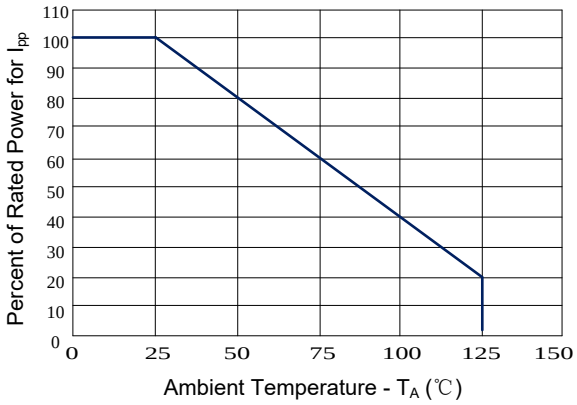


Figure 3: Pulse Waveform

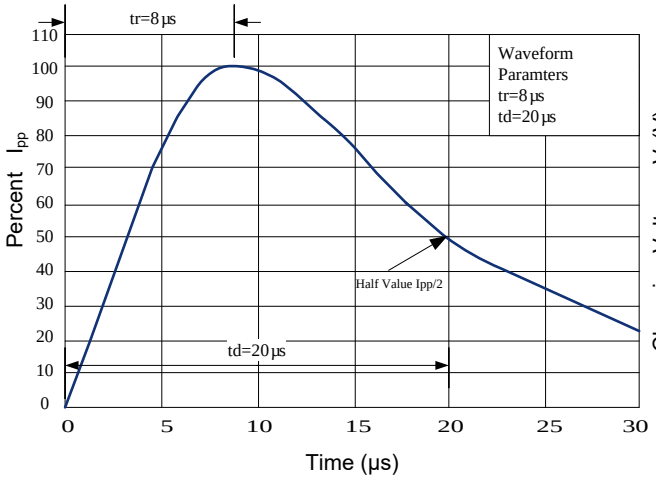


Figure 4: Clamping Voltage vs. Peak Pulse Current

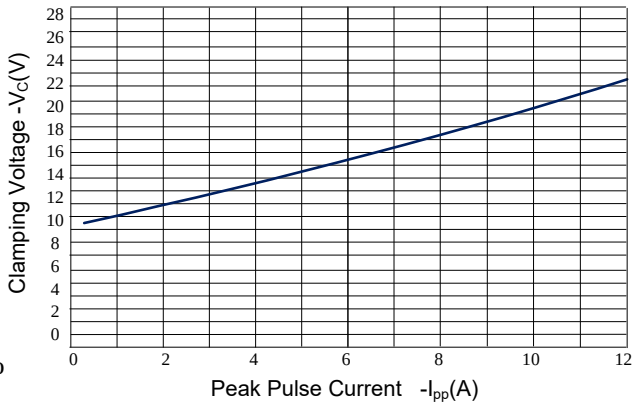
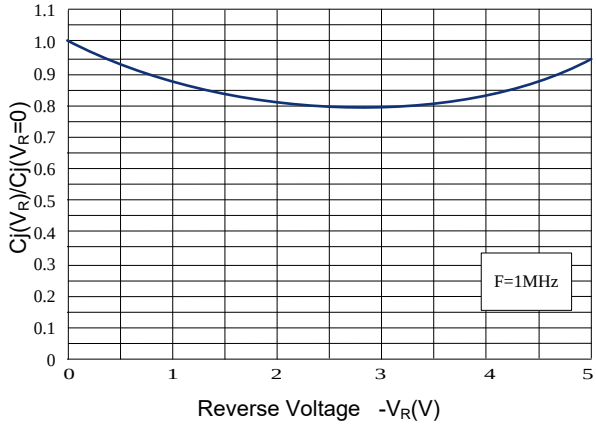
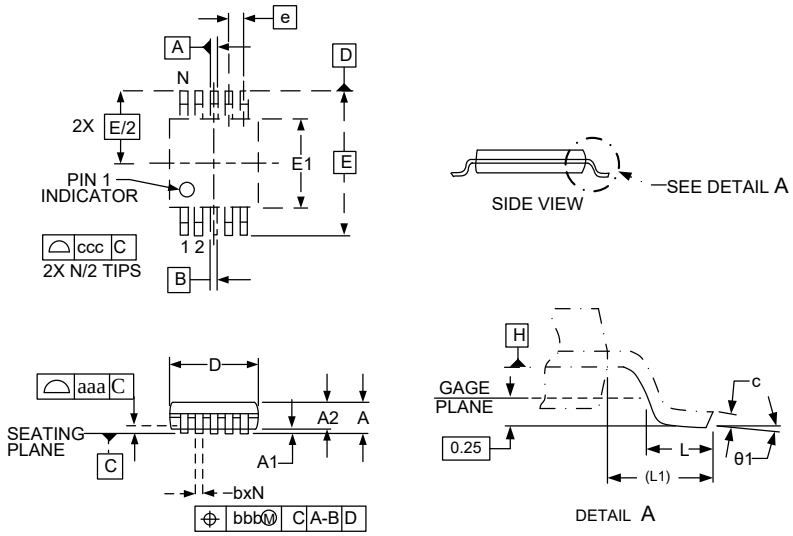


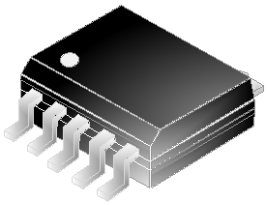
Figure 5: Capacitance vs. Reverse Voltage



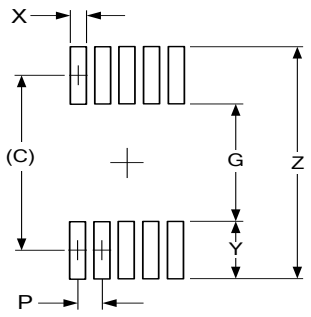
Outline Drawing – MSOP 10L

PACKAGE OUTLINE





DIMENSIONS						
DIM	INCHES			MILLMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	.032	-	.043	0.82	-	1.10
A1	.001	-	.006	0.02	-	0.15
A2	.030	-	.037	0.75	-	0.95
B	.007	-	.011	0.18	-	0.28
C	.003	-	.009	0.08	-	0.23
D	.114	.118	.122	2.90	3.00	3.10
E1	.114	.118	.122	2.90	3.00	3.10
E	.193 BSC			4.90 BSC		
e	.020 BSC			0.50 BSC		
L	.016	.024	.032	0.40	0.60	0.80
L1	(.037)			(.95)		
N	10			10		
θ1	0°	-	8°	0°	-	8°
aaa	.004			0.10		
bbb	.003			0.08		
ccc	.010			0.25		

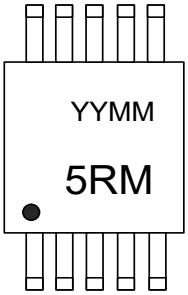


DIMENSIONS		
DIM	INCHES	MILLMETERS
C	(.161)	(4.10)
G	.098	2.50
P	.020	0.50
X	.011	0.30
Y	.063	1.60
Z	.224	5.70

NOTES:

1. CONTROLLING DIMENSIONS ARE IN MILLMETERS (ANGLES IN DEGREES).
2. DATUMS "-A-" AND "-B-" TO BE DETERMINED AT DATUM PLANE "-H-"
3. .DIMENSIONS "E1" AND "D" DO NOT INCLUDE MOLD FLASH,PROTRUSIONS OR GATE BURRS.
4. REFERENCE JEDEC STD MO-187, VARIATION BA.

Marking Codes



5RM=Specific Device Code
YYMM=Lot Code