

LSM05B-TP Datasheet

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DiGi Electronics Part Number	LSM05B-TP-DG
Manufacturer	Micro Commercial Co
Manufacturer Product Number	LSM05B-TP
Description	TVS DIODE 5VWM 10VC SOT23
Detailed Description	10V Clamp 5A (8/20μs) Ipp Tvs Diode Surface Mount SOT-23

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Purchase and inquiry

Manufacturer Product Number:

LSM05B-TP

Series:

-

Type:

Zener

Voltage - Reverse Standoff (Typ):

5V (Max)

Voltage - Clamping (Max) @ Ipp:

10V

Power - Peak Pulse:

50W

Applications:

General Purpose

Operating Temperature:

-55°C ~ 150°C (TJ)

Package / Case:

TO-236-3, SC-59, SOT-23-3

Base Product Number:

LSM05

Manufacturer:

Micro Commercial Co

Product Status:

Active

Bidirectional Channels:

2

Voltage - Breakdown (Min):

5.8V

Current - Peak Pulse (10/1000µs):

5A (8/20µs)

Power Line Protection:

No

Capacitance @ Frequency:

12pF @ 1MHz

Mounting Type:

Surface Mount

Supplier Device Package:

SOT-23

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.10.0080

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

Features

- Low Reverse Clamping Voltage
- Low Leakage Current
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C



MCC Part Number	Device Marking
LSM05B	BL5A

IEC61000-4-2(ESD)	Air Contact	±25KV ±25KV
JESD22-A114-B(ESD)	Machine Human Body	±0.4KV ±16KV
Peak Pulse Current(8/20µs)	I _{PP}	5A
Peak Pulse Power (8/20us)	P _{PK}	50W

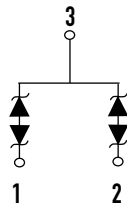
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

SOT-23

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.110	0.120	2.80	3.04	
B	0.083	0.104	2.10	2.64	
C	0.047	0.055	1.20	1.40	
D	0.034	0.041	0.85	1.05	
E	0.067	0.083	1.70	2.10	
F	0.018	0.024	0.45	0.60	
G	0.0004	0.006	0.01	0.15	
H	0.035	0.043	0.90	1.10	
J	0.003	0.007	0.08	0.18	
K	0.012	0.020	0.30	0.51	
L	0.007	0.020	0.20	0.50	

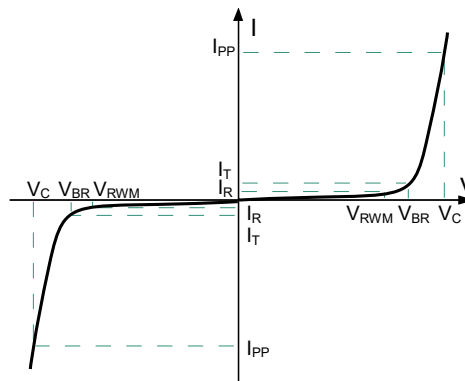
Suggested Solder Pad Layout

Internal Structure



ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
C	Capacitance @ $V_R=0$ and $f=1\text{MHz}$



Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	5.8		8	V
Reverse Leakage Current	I_R	$V_{RWM} = 5\text{V}$			0.1	μA
Clamping Voltage	V_C	$I_{PP}=5\text{A}$, $t_p=8/20\mu\text{s}$			10	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		12	15	pF

Curve Characteristics

Fig. 1 - 8 X 20µs Pulse Waveform

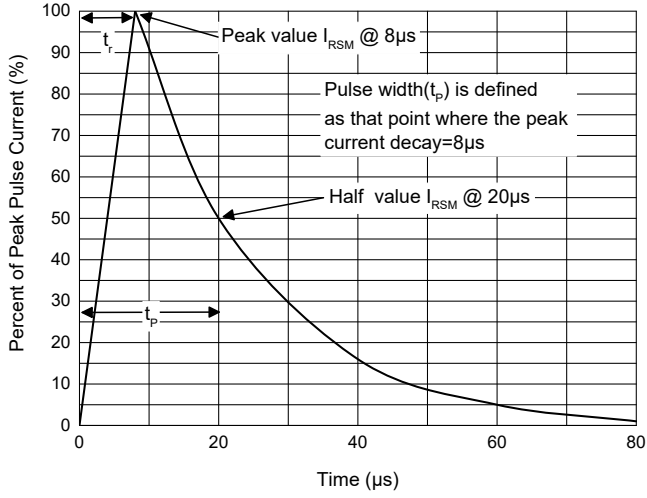


Fig. 2 - Pulse Derating Curve

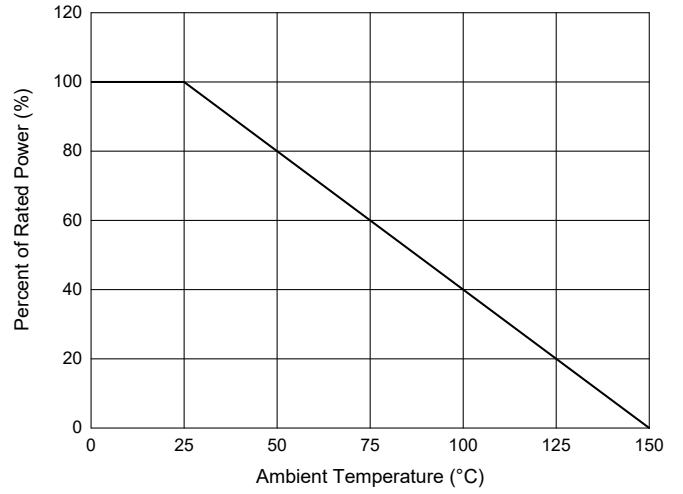


Fig. 3 - Capacitance Characteristics

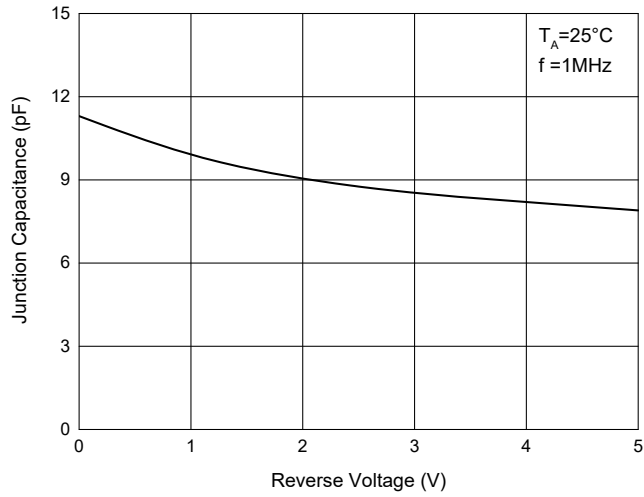
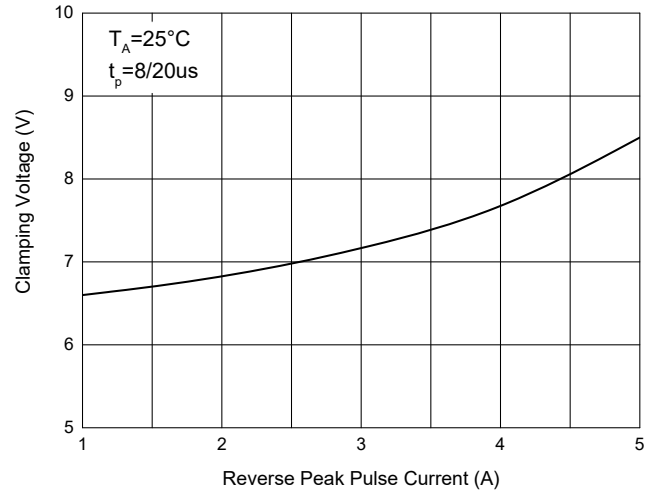


Fig. 4 - Clamping Voltage Characteristics



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

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