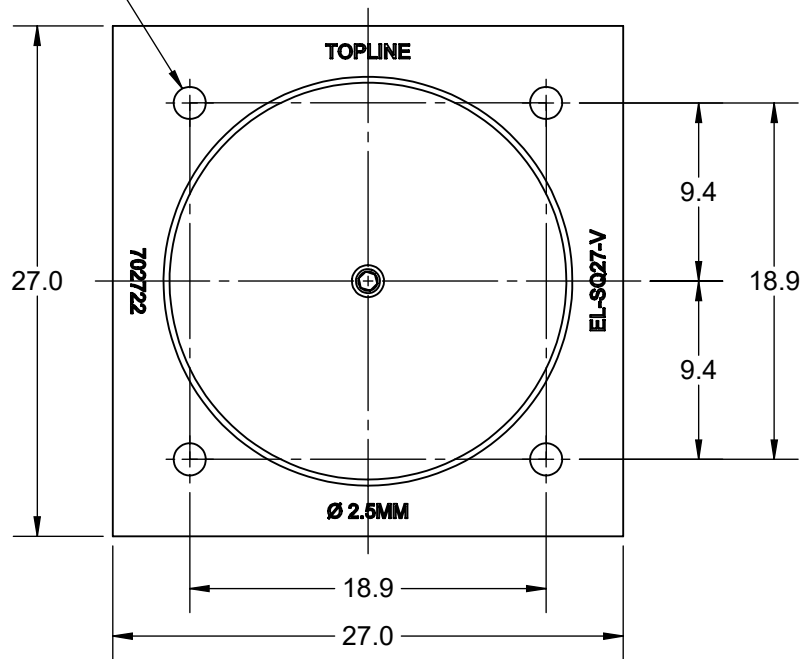


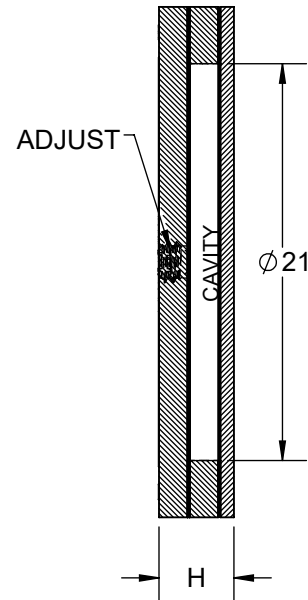
STYLE FS  
SCREW HOLE  
OPTIONAL

**TOP**

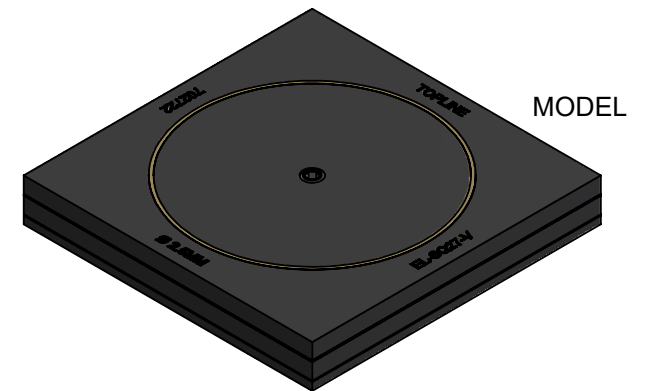
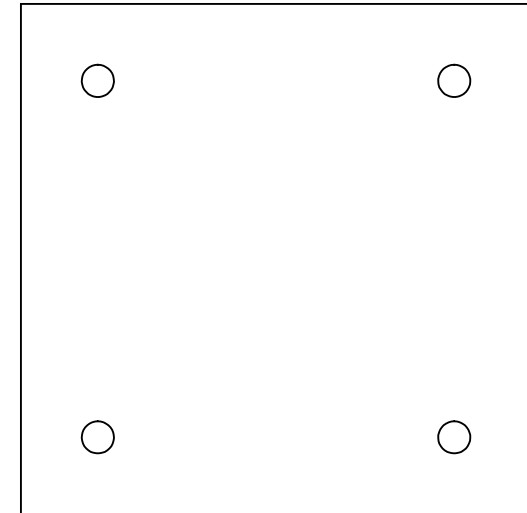


SCREW OPTIONAL

**SIDE**



**BOTTOM  
(NOTE 2)**



**DIMENSION AND WEIGHT (MASS) TABLE**

H HEIGHT ±0.5 mm	PCB MASS	TUNGSTEN BALLS IN CAVITY				Total PID MASS	SCREW ADJUST	SCREW HEX HEAD
		Ø DIA	Per Ball	QTY	Mass			
4.0mm	45g	1.5mm	0.031g	145~147	4.5g	9.5g	2-56	0.035
4.5mm	55g	2.0mm	0.073g	79~81	5.5g	11g	4-40	0.050
5.0mm	60g	2.3mm	0.102g	59~62	6.0g	12g	6-32	1/16
7.5mm	70g	2.5mm	0.143g	~49	7.0g	16g	6-32	1/16

NOTES: (Unless Otherwise Specified).

1) DIMENSIONS mm

APPLICATION NOTES:

Contact TopLine for help to select the best PID for your application.

NOTES 2 MOUNTING STYLE

2= SCREW (FS)

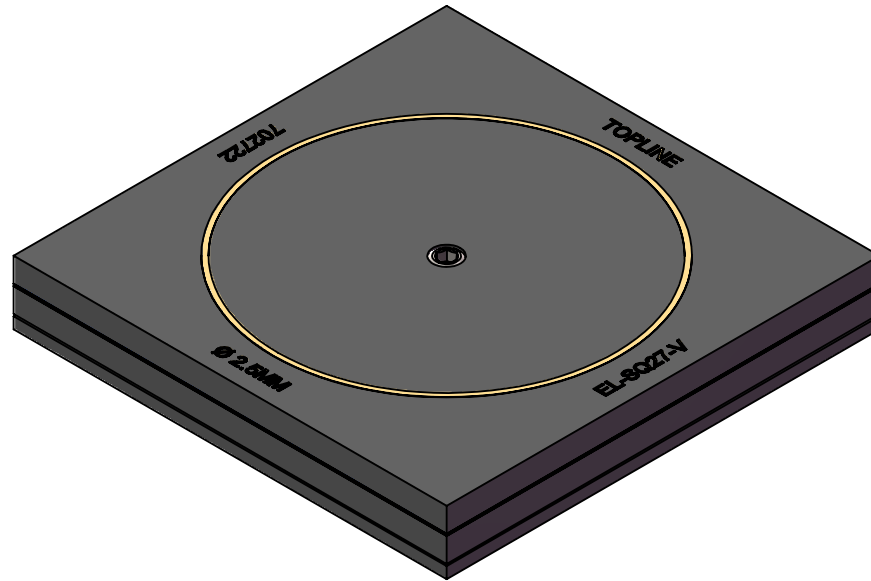
3= ADHESIVE (FA)

**PATENTS THAT MAY APPLY ON PAGE 4**

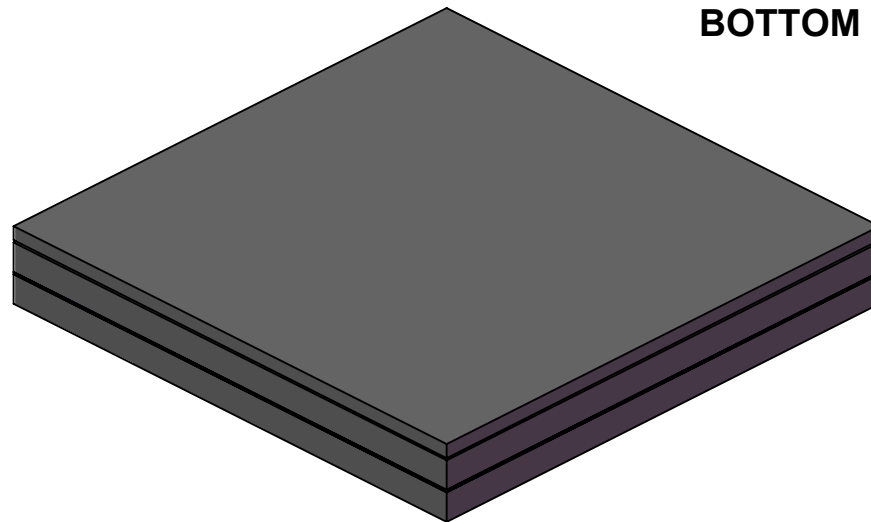
APPROVALS	DATE	<b>TopLine®</b>			
DRAWN T. Au	7/1/2021				
ENG M. Hart	7/1/2021	TITLE EL-SQ27-V PID VIBRATION DAMPER			
MFG		SCALE	SIZE	DRAWING NO.	REV
QA		2.5:1	A	702722	A
CUST		DO NOT SCALE DRAWING			SHEET 1 OF 4
REVISED					

# MODELS

TOP



BOTTOM



**STYLE FA  
ADHESIVE  
(GLUE)**

**TopLine®**

TITLE EL-SQ27-V  
PID VIBRATION DAMPER

SCALE 2:1	SIZE A	DRAWING NO. 702722	REV A
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DO NOT SCALE DRAWING

SHEET 2 OF 4

## PART NUMBER SYSTEM

<u>F</u>	<u>A</u>	<u>6.0</u>	<u>SQ</u>	<u>27X</u>	<u>5.0</u>	<u>A</u>
Series	Mounting on PCB	Tungsten Payload Grams (Mins.)	Shape	X/Y Size	Height	Version/Option
<b>Filled</b> F = FR4 Case A = Al Case  <b>Empty</b> E = FR4 Case L = Al Case	<b>Mounting Style</b> A = Adhesive  S = Screw Fastener	<b>Code • Grams</b> 6.5 = 6.5gm 8.0 = 8.0gm 9.0 = 9.0gm 10 = 10.0gm  Other Mass Available	<b>Code • Shape</b>  SQ = Square R = Rectangle C = Cylindrical T = Toroid Z = Custom	<b>Code Size</b>  27X = 27mm SQ  Other Sizes Available	<b>Code Height</b>  4.0 = 4.0mm 4.5 = 4.5mm 5.0 = 5.0mm 7.5 = 7.5mm  Other Sizes Available	<b>Code Version</b>  A Standard  Other Version Available

## ORDER NUMBER

<u>1</u>	<u>3</u>	<u>690</u>	<u>2</u>
DESCRIPTION	Mount syle	Mass (gram) 9 = Decimal	Option Code
<u>Code • Description</u>  1 = Filled PID 5 = Eng Dev Kit 7 = Empty Pkg	<u>Code • Description</u> 2 = Screw (S) 3 = Glue (A) 9 = Custom 0 = Master DWG	<u>Code • Grams</u> 495 = 4.5gm 595 = 5.5gm 690 = 6.0gm 790 = 7.0gm	1 Version A 2 Version B 3 Version C ... 9 Version J

<b>TopLine®</b>			
TITLE EL-SQ27-V PID VIBRATION DAMPER			
SCALE NONE	SIZE A	DRAWING NO. 702722	REV A
DO NOT SCALE DRAWING		SHEET 3 OF 4	

## U.S. PATENTS PARTICLE IMPACT DAMPERS

	U.S. PATENT NBR	GRANTED	TITLE
1	9,521,753	2016	Vibration damping circuit board assembly
2	10,041,558	2018	Tunable apparatus for adjusting effective performance of particle impact damper
3	10,021,779	2018	Quick response particle damper for printed circuit boards and planar surfaces
4	D842351	2019	Toroidal shaped particle impact damper
5	10,704,639	2020	Unidirectional particle damper for printed circuit boards and planar surfaces

## U.S. PATENTS REGISTERED TRADEMARKS

REGISTRATION	GRANTED	MARK	GOODS & SERVICES
5,469,015	2018	Inspired by Gravity®	Class 9. Electronic components namely particle impact dampers for attenuating vibration in printed circuit boards and mechanical assemblies

**TopLine®**

TITLE EL-SQ27-V PID VIBRATION DAMPER			
SCALE NONE	SIZE A	DRAWING NO. 702722	REV A
DO NOT SCALE DRAWING		SHEET 4 OF 4	