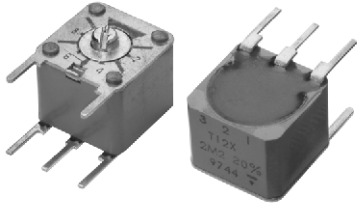


## Fully Sealed Container Square or Round Cermet Trimmers



The Vishay SFERNICE trimming potentiometers T12 and T13 fully meet the requirements of CECC 41 100.

The use of a cermet track combined with sealing of the case provides unique characteristics and performances.

T12 and T13 have been specially designed for mounting on printed circuit board.

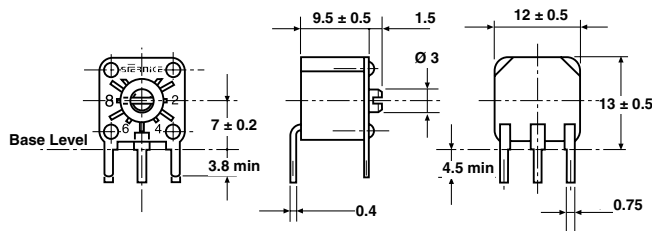
### FEATURES

- Military and Professional Grade
- High power rating (1 Watt at 70 °C)
- CECC 41100
- High stability (1 % typical)
- Mechanical strength
- Hermetic sealing of the case
- Different mounting types

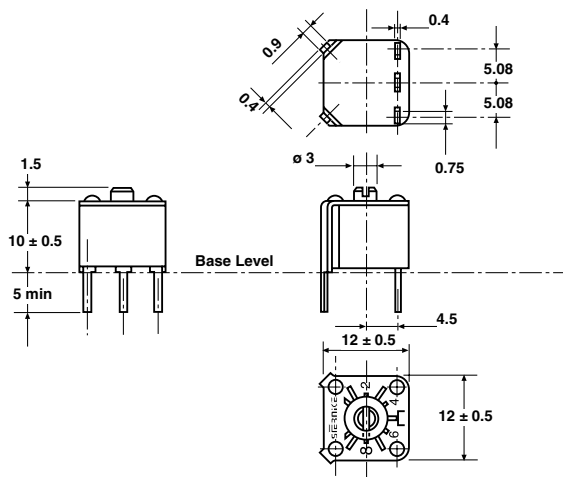


### DIMENSIONS in millimeters

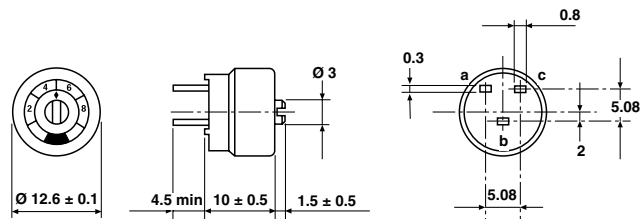
T12X - PM06X



T12Y - PM06Y

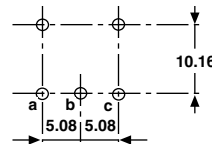


T13Y

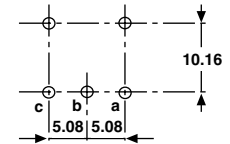


### TERMINAL SPACING ON THE PCB Drilling diameter: 1.2 mm

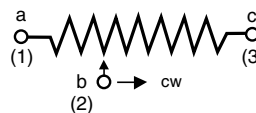
T12X



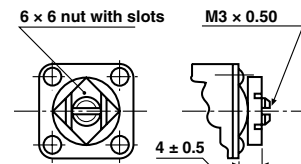
T12Y



### CIRCUIT DIAGRAM



### LOCKING DEVICE: T12 XB - YB



Tolerances unless otherwise specified  $\pm 0.5$



ELECTRICAL SPECIFICATIONS		
Resistive Element		cermet
Electrical Travel		270° ± 10°
Resistance Range		22 Ω to 10 MΩ
Standard series E3		1 - 2.2 - 4.7 and on request 1 - 2 - 5
Tolerance	Standard	± 20 %
	On Request	± 10 %
Power Rating	Linear	1 W at 70 °C
	Logarithmic	0.5 W at 70 °C
Temperature Coefficient		See Standard Resistance Element Table
Limiting Element Voltage (Linear Law)		350 V
Contact Resistance Variation		3 % Rn or 3 Ω
End Resistance (Typical)		1 Ω
Dielectric Strength (RMS)		1000 V
Insulation Resistance (500VDC)		10 <sup>6</sup> MΩ

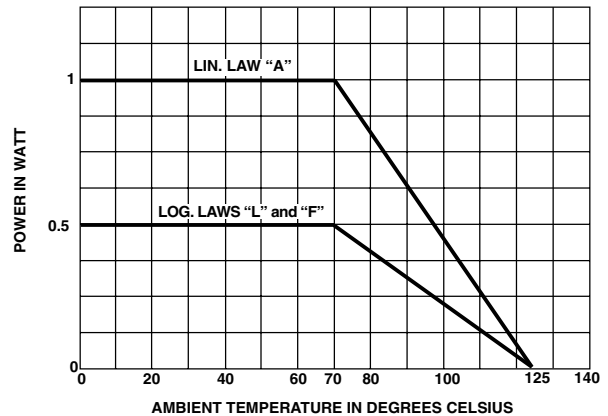
**MECHANICAL SPECIFICATIONS**

Mechanical Travel 300° ± 5°  
 Operating Torque (max. Ncm) 3  
 End Stop Torque (max. Ncm) 15  
 Unit Weight (max. g) 4.7

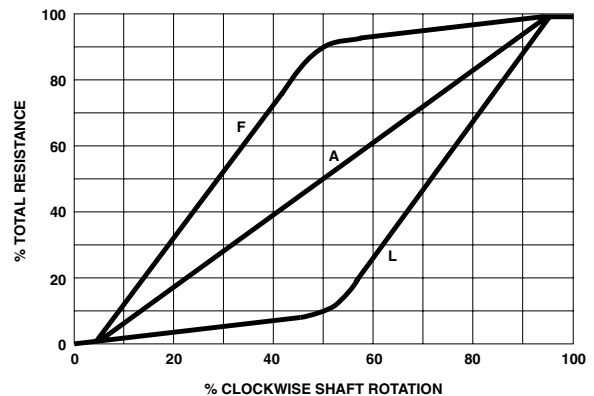
**ENVIRONMENTAL SPECIFICATIONS**

Temperature Range - 55 °C to + 125 °C  
 Climatic Category 55/100/56  
 Sealing fully sealed container IP67

**POWER RATING CHART**



**RESISTANCE LAWS**





PERFORMANCE			
TESTS	CONDITIONS	TYPICAL VALUES AND DRIFTS	
		$\frac{\Delta RT}{RT}$ (%)	$\frac{\Delta R_{1-2}}{R_{1-2}}$ (%)
Load Life	1000 hours at rated power 90°/30° - ambient temperature 70 °C	± 1 % Contact res. variation: < 2 % Rn	± 2 %
Climatic Sequence	Phase A dry heat 100 °C Phase B damp heat Phase C cold - 55 °C Phase D damp heat 5 cycles	± 0.5 %	± 1 %
Long Term Damp Heat	56 days 40 °C 93 % RH	± 0.5 % Dielectric strength: 1000 V RMS Insulation resistance: > 10 <sup>4</sup> MΩ	± 1 %
Rapid Temperature Change	5 cycles - 55 °C at + 125 °C	± 0.5 %	$\frac{\Delta V_{1-2}}{\Delta V_{1-3}}$ ≤ ± 1 %
Shock	50 g at 11 m secs 3 successive shocks in 3 directions	± 0.1 %	± 0.5 %
Vibration	10 - 55 Hz 0.75 mm or 10 g during 6 hours	± 0.1 %	$\frac{\Delta V_{1-2}}{\Delta V_{1-3}}$ ≤ ± 0.5 %
Rotational Life	200 cycles	± 1 % Contact res. variation: < 2 % Rn	

STANDARD RESISTANCE ELEMENT DATA							
STANDARD RESISTANCE VALUES	LINEAR LAW			LOG LAWS			TCR -55 °C + 125 °C
	MAX. POWER AT 70 °C	MAX. WORKING VOLTAGE	MAX. WIPER CUR.	MAX. POWER AT 70 °C	MAX. WORKING VOLTAGE	MAX. WIPER CUR.	
Ω	W	V	mA	W	V	mA	ppm/°C
22	1	4.69	213.2				0
47	↓	6.85	145.8				+ 200
100	↓	10	100				± 100
220	↓	14.8	67.4				
470	↓	21.6	46.1				
1K	↓	31.6	31.6	0.5	22.4	22.4	
2.2K	↓	46.9	21.3	↓	33.2	15.1	
4.7K	↓	68.5	14.5	↓	48.5	10.3	
10K	↓	100	10	↓	79.7	7.07	
22K	↓	148.3	6.7	↓	105	4.77	
47K	↓	216.7	4.6	↓	153	3.26	
100K	1	316.2	3.16	↓	224	2.24	
220K	0.56	350	1.59	0.5	332	1.51	
470K	0.26	350	0.75	0.26	350	0.74	
1M	0.12	350	0.35	0.12	350	0.35	
2.2M	0.05	350	0.16				
4.7M	0.02	350	0.07				
10M	0.01	350	0.03				

### MARKING

- Printed:
- VISHAY trademark
  - series
  - ohmic value (in Ω, kΩ, MΩ)
  - tolerance (in %)
  - manufacturing date
  - marking of terminal: (1, 2, 3)



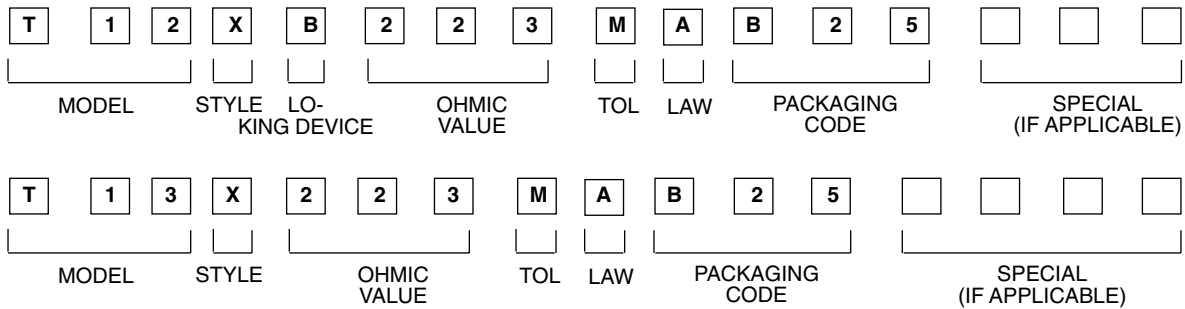
**PACKAGING**

- Plastic box of 50 pieces for T13Y and BL50
- Carton box of 50 pieces for T12Y and T12X, code BO50

**ORDERING INFORMATION**

T12 SERIES	X STYLE	B ON REQUEST	22 kΩ OHMIC VALUE	± 20 % TOLERANCE	A RESISTANC	BO50 PACKAGING	e3 LEAD FINISH
T12	X	LOCKING DEVICE			LAWS	Version T12X, Y: BO50	
T13	Y					Version T13Y: BL50	e3: pure Sn

**SAP PART NUMBERING GUIDELINES**



See the end of this data book for conversion tables



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