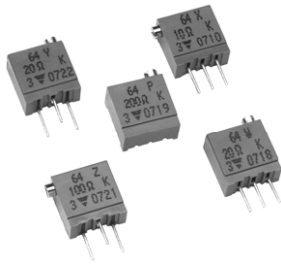




**THE DATASHEET OF  
M64X102KB40**



# 3/8" Square (10 mm) Multi-Turn Cermet Trimmer



## FEATURES

- Industrial grade
- 0.5 W at 70 °C
- Tests according to CECC 41000 or IEC 60393-1
- Contact resistance variation < 2 %
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



RoHS  
COMPLIANT

## LINKS TO ADDITIONAL RESOURCES



The Model 64 is a small size trimmer - 3/8" x 3/8" x 3/16" - answering PC board mounting requirements. Five versions are available which differ by the position of the control screw in relation to the PC board plane and by the spacing of the terminals. Excellent operational stability is provided by the use of a cermet element.

DIMENSIONS in millimeters (± 0.5 mm)			
<p><b>64X</b></p>			<p><b>Terminal Spacing on a 2.54 PCB</b></p>
<p><b>64Z</b></p>			
<p><b>64W</b></p>			
<p><b>64Y</b></p>			
<p><b>64P</b></p>			

**Note**

(1) To be measured at base level

<b>ELECTRICAL SPECIFICATIONS</b>		
Resistive element	Cermet	
Electrical travel	21 turns $\pm$ 2	
Resistance range	10 $\Omega$ to 2.2 M $\Omega$	
Standard series E3	1 - 2 - 2.5 - 5	
Tolerance	Standard	10 %
	On request	5 %
Power rating	linear 0.5 W at +70 °C 	
Circuit diagram		
Temperature coefficient	See Standard Resistance Element table	
Limiting element voltage (linear law)	250 V	
Contact resistance variation	2 % R <sub>n</sub> or 2 $\Omega$	
End resistance (typical)	1 $\Omega$	
Dielectric strength (RMS)	1000 V	
Insulation resistance (500 V <sub>DC</sub> )	10 <sup>6</sup> M $\Omega$	

<b>MECHANICAL SPECIFICATIONS</b>	
Mechanical travel	23 turns $\pm$ 5
Operating torque (max. Ncm)	1.5
End stop torque	Clutch action
Net weight	Approx. 0.82 g
Wiper (actual travel)	Positioned at approx. 50 %
Terminals	Pure Sn (code e3)

<b>ENVIRONMENTAL SPECIFICATIONS</b>	
Temperature range	-55 °C to +125 °C
Climatic category	55/125/56
Sealing	Fully sealed - IP67



STANDARD RESISTANCE ELEMENT DATA				
STANDARD RESISTANCE VALUES	LINEAR LAW			TYPICAL TCR -55 °C +125 °C
	MAX. POWER AT 70 °C	MAX. WORKING VOLTAGE	MAX. CURRENT THROUGH WIPER	
Ω	W	V	mA	ppm/°C
10	0.5	2.2	224	± 100
20	0.5	3.2	158	
50	0.5	5	100	
100	0.5	7.1	71	
200	0.5	10	50	
250	0.5	11.2	45	
500	0.5	15.8	32	
1K	0.5	22.4	22	
2K	0.5	31.6	16	
2.5K	0.5	35.4	14	
5K	0.5	50	10	
10K	0.5	70.7	7.1	
20K	0.5	100	5	
25K	0.5	112	4.5	
50K	0.5	158	3.2	
100K	0.5	224	2.2	
200K	0.31	250	1.3	
250K	0.25	250	1	
500K	0.125	250	0.5	
1M	0.063	250	0.25	
2M	0.031	250	0.13	

PERFORMANCES			
TESTS	CONDITIONS	TYPICAL VALUES AND DRIFTS	
		$\Delta R_T/R_T$ (%)	$\Delta R_{1-2}/R_{1-2}$ (%)
Load life	1000 h at rated power 90'/30' - ambient temp. 70 °C	± 1 % Contact res. variation: < 1 % Rn	± 2 %
Climatic sequence	Phase A dry heat 125 °C - 30 % Pr 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 <sub>RMS</sub> Insulation resistance: > 10 <sup>4</sup> MΩ	± 1 %
Rapid temperature change	5 cycles -55 °C to +125 °C	± 0.5 %	$\Delta V_{1-2}/\Delta V_{1-3} \leq \pm 1 \%$
Shock	50 g at 11 ms 3 successive shocks in 3 directions	± 0.1 %	± 0.2 %
Vibration	10 Hz to 55 Hz 0.75 mm or 10 g during 6 h	± 0.1 %	$\Delta V_{1-2}/\Delta V_{1-3} \leq \pm 0.2 \%$
Rotational life	200 cycles	± 4 % Contact res. variation: < 1 % Rn	-

**Note**

- Nothing stated herein shall be construed as a guarantee of quality or durability

MARKING
<ul style="list-style-type: none"> <li>• Vishay trademark</li> <li>• Model</li> <li>• Style</li> <li>• Ohmic value (in Ω, kΩ, MΩ)</li> <li>• Tolerance (in %)</li> <li>• Manufacturing date</li> <li>• Marking of terminal 3</li> </ul>



PACKAGING
<ul style="list-style-type: none"> <li>In box of 200 pieces code B40 (BO200)</li> </ul> On request: <ul style="list-style-type: none"> <li>In box of 100 pieces code B30 (BO100)</li> <li>In tube of 50 pieces code T20 (TU50)</li> </ul>

ORDERING INFORMATION (part number)													
M	6	4	P	2	2	4	K	B	4	0			
Model	STYLE		OHMIC VALUE			TOLERANCE		PACKAGING			SPECIAL NUMBER		
M64	P W X Y Z		From 10 Ω to 2.2 MΩ 224 = 220 kΩ			K = 10 % On request J = 5 %		B40 = box 200 pieces On request: B30 = box 100 pieces T20 = tube 50 pieces			(If applicable) Given by Vishay for custom design		

DESCRIPTION (for information only)						
64	P	220K	10 %		BO200	e3
MODEL	STYLE	VALUE	TOLERANCE	SPECIAL	PACKAGING	LEAD FINISH

RELATED DOCUMENTS	
<b>APPLICATION NOTES</b>	
Potentiometers and Trimmers	<a href="http://www.vishay.com/doc?51001">www.vishay.com/doc?51001</a>
Guidelines for Vishay Sfernice Resistive and Inductive Components	<a href="http://www.vishay.com/doc?52029">www.vishay.com/doc?52029</a>

ACCESSORIES	
Screwdrivers (to order separately)	<a href="http://www.vishay.com/doc?57015">www.vishay.com/doc?57015</a>



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