

Common Specification of Lead-Free Soldering for Potentiometers

The specification below is based on testing results of 1.6mm thickness single layer printed circuit board.

1. For Manual Soldering :

1-1 To be performed within 3 seconds at 350°C or below.

2. For Automated or Semi-Automated Soldering Equipments:

2-1 Flux of 0.82 specific gravity, applied by foam fluxer, shall be used. Foam head shall be limited to the height which is half thickness of printed circuit board to be soldered. No flux should be allowed to run up onto resistive element board of potentiometer and the surface of printed circuit board.

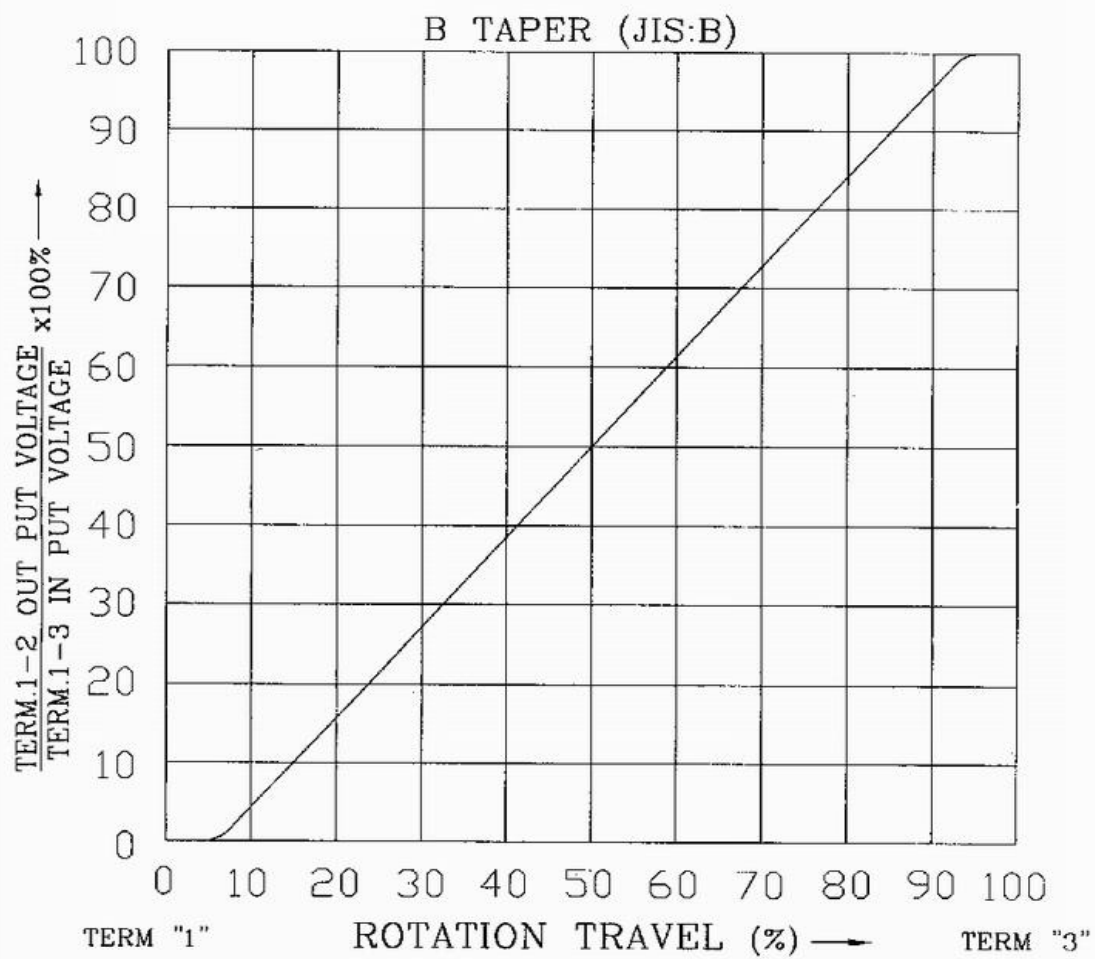
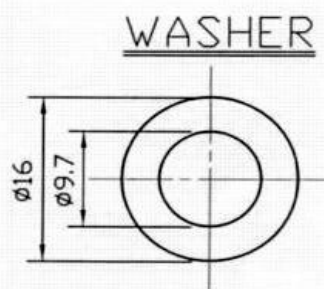
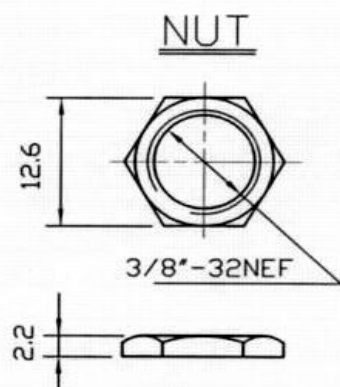
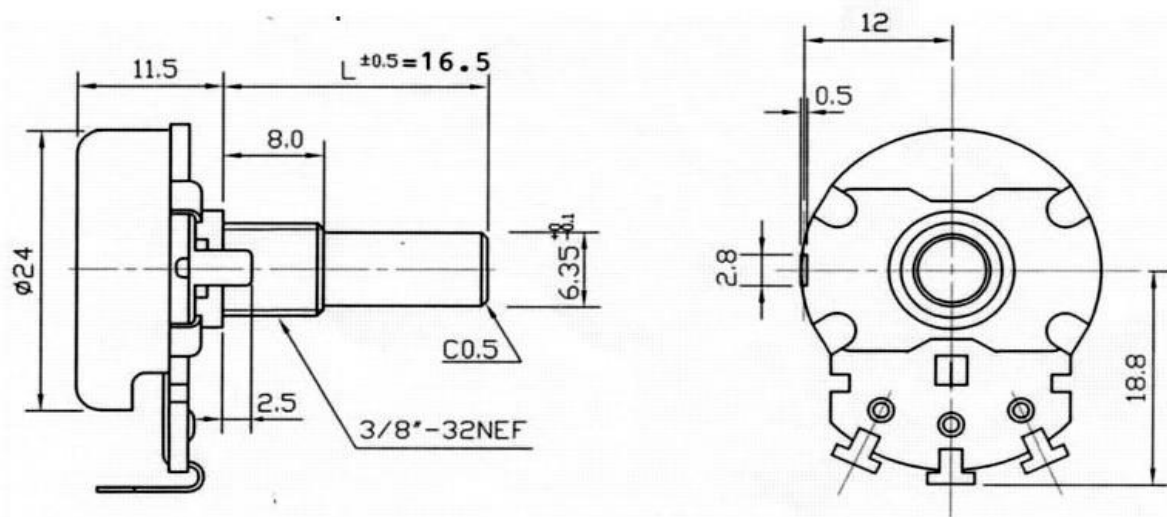
2-2 Regarding preheating, the entire flow duration should not exceed 2 minutes, and soldering surface temperature (undersurface of PCB) shall be settled within 100°C.

2-3 Solder Dipping is to be performed within 4 seconds at 260°C or below.

3. For potentiometer with centre detent or multiple detents, its shaft or lever should be settled in relevant detent position prior to soldering process.

4. Regardless of soldering facility and method, solder dipping or solder smearing must not be carried out more than 1 time.

Remarks : This specification is not recommended for and applicable in reflow soldering.



CUSTOMER'S NAME	Tube Amp Doctor Musikhandles GmbH	NOTE	Z-BX
CUSTOMER'S PART NAME			
CUSTOMER'S DRAWING NO.			

1. MECHANICAL SPECIFICATION

1. OUTSIDE DIMENSION	append fig.	
2. TOTAL ROTATION ANGLE	degree	300 $\pm 5^\circ$
3. TOTAL TRAVEL STROKE	mm	± 0.5
4. NUT WIRING STRENGTH	twisting moment	less than 9 kg.cm
5. SCREW TIGHTENING FORCE	torsional moment	less than kg.cm
6. ROTATION TORQUE	speed 60 deg/sec.	20~200 g.cm
7. SLIDING FORCE	speed 20mm/sec	g.cm
8. SHAFT LEVER STRENGTH	pulling pushing	more than kg
9. SHAFT LEVER WOBBLE	within mm (bending moment	g.cm)
10. SHAFT LEVER STOP STRENGTH	more than 6 kg.cm (static load) / 60 sec	
11. TERMINAL STRENGTH	more than 500 g.cm / 10 ± 1 sec	
	soldering heat 300 $\pm 5^\circ\text{C}$ /3sec. 200g.cm/10 ± 1 sec	
	resist change within $\pm 2\%$	
12. CLICK POSITION & TORQUE	g.cm	
13. SWITCH WORKING ANGLE (STROKE)	degree (mm)	
14. SWITCH WORKING TORQUE (FORCE)	g.cm	
15. SWITCH CIRCUIT		

2. ELECTRICAL SPECIFICATION

1. OVERALL RESISTANCE & TOLERANCE	terminal 1-3	$\Omega \pm 30 \%$
2. TAP RESISTANCE & TOLERANCE	terminal 1-4	$\Omega \pm \%$
3. RATED WATTAGE	temp 0~50°C	0.5 W
4. MAXIMUM WORKING VOLTAGE		500 V
5. RESISTANCE TAPER MEASURING POINT & TOLERANCE		B 50 %point 40 ~ 60 %
6. RESIDUAL RESISTANCE	terminal 1/3 side	less than 20/20 Ω
7. TAP RESIDUAL RESISTANCE	terminal 4 side	less than 100 Ω
8. SLIDE NOISE		less than 47 mV
9. INSULATION RESISTANCE	more than 100 M Ω (DC	500 V)
10. WITHSTAND VOLTAGE	AC 500 V	1 minute
11. TRACKING ERROR		
12. SWITCH CONTACT RESISTANCE	M Ω	less than m Ω
13. SWITCH RATING		

3. USABLE TEMPERATURE RANGE: from -10°C to 70°C

4. VR LIFE 15,000 \pm TIMES

SHAFT

MATERIAL	ANGLE OF FLAT OR SLOT	DIMENSION			
	θ	M	L	F	T
ALUMINUM	at		16.5		