

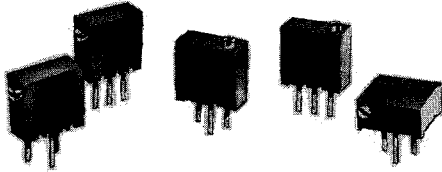


**T93**  $\begin{cases} \text{XA} - \text{XB} \\ \text{YA} - \text{YB} \\ \text{Z} \end{cases}$

# 3/8" square multiturn cermet trimmer

- industrial grade

0,5 W at 85°C  
CECC 41 100  
NF C 83-251  
MIL-R-22097  
LNZ



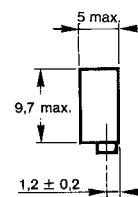
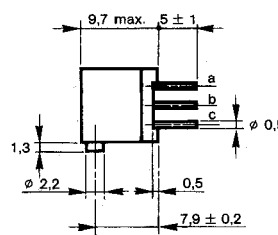
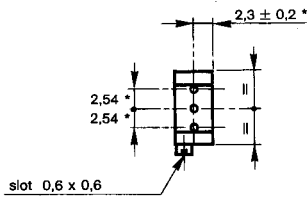
The T93 is a small size trimmer - 3/8" x 3/8" 3/16" - answering PC board mounting requirements.

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.

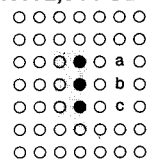
Excellent operational stability is provided by the use of a cermet element. The T93 series is ideally suited for all industrial applications:

- MULTIFINGER WIPER CONTACT IN PRECIOUS METAL
- CONTACT RESISTANCE VARIATION < 1% TYPICAL
- MEET MIL-R-22097 SPECIFICATIONS

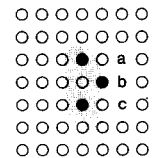
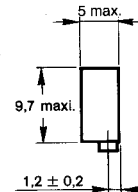
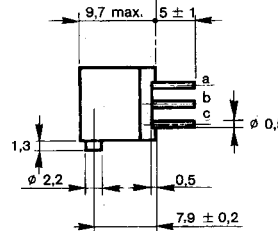
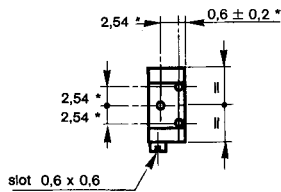
## T93XA



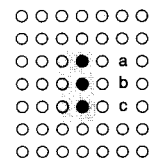
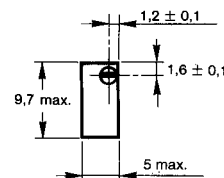
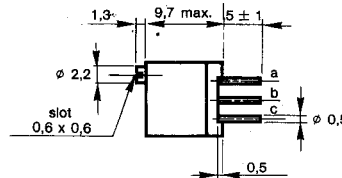
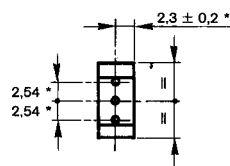
### TERMINAL SPACING ON A 2,54 PCB



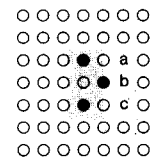
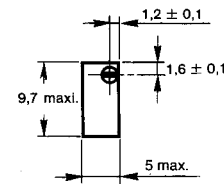
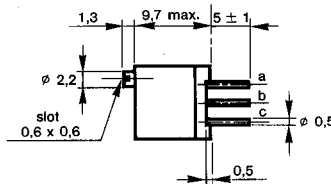
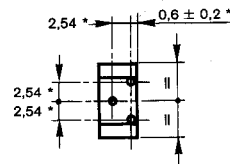
## T93XB



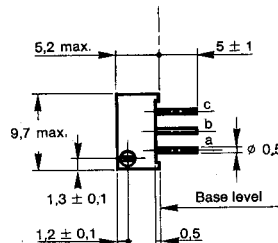
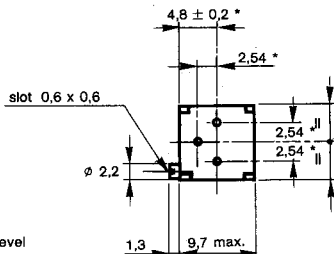
## T93YA



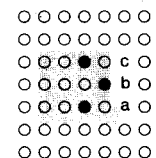
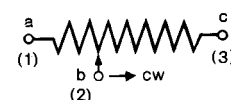
## T93YB



## T93Z



### CIRCUIT DIAGRAM



\* To be measured at base level  
Dimensions in mm.

### SPECIFICATIONS

#### MECHANICAL

MECHANICAL TRAVEL... 22 turns ±5  
OPERATING TORQUE (max. Ncm)... 1,5  
END STOP TORQUE... clutch action  
UNIT WEIGHT (max. g.)... 1,2

#### ENVIRONMENTAL

TEMPERATURE RANGE... -55°C + 155°C  
CLIMATIC CATEGORY... 55 / 125 / 56  
SEALING... fully sealed  
container IP67

## SPECIFICATIONS

### ELECTRICAL

RESISTIVE ELEMENT... cermet  
 ELECTRICAL TRAVEL... 19 turns  $\pm 2$   
 RESISTANCE RANGE... 10  $\Omega$ ... 2,2 M $\Omega$   
 Standard series E3 (1 - 2,2 - 4,7) and 1 - 2 - 5  
 TOLERANCE standard...  $\pm 10\%$   
 on request...  $\pm 5\%$

POWER RATING linear... 0,5 W at  $+85^\circ\text{C}$   
 logarithmic... not applicable  
 TYPICAL TEMP. COEFFICIENT (for  $R_n \geq 100 \Omega$ )...  $\pm 70 \text{ ppm}/^\circ\text{C}$   
 LIMITING ELEMENT VOLTAGE (linear law)... 250 V  
 CONTACT RESISTANCE VARIATION ... 2%  $R_n$  or 2  $\Omega$   
 END RESISTANCE (typical)... 1  $\Omega$   
 DIELECTRIC STRENGTH (RMS)... 1000 V  
 INSULATION RESISTANCE (500 V DC)...  $10^6 \text{ M}\Omega$

## PERFORMANCES

Table 1

TESTS	CONDITIONS	TYPICAL VALUES AND DRIFTS	
		$\frac{\Delta R_T}{R_T}$ (%)	$\frac{\Delta R_{1-2}}{R_{1-2}}$ (%)
LOAD LIFE	1000 hours at rated power 90'/30' - ambient temperature $85^\circ\text{C}$	$\pm 1\%$ Contact resistance variation : $< \pm 1\% R_n$	$\pm 2\%$
CLIMATIC SEQUENCE	Phase A dry heat $125^\circ\text{C}$ - 30% Pr Phase B damp heat Phase C cold $-55^\circ\text{C}$ Phase D damp heat 5 cycles	$\pm 0,5\%$	$\pm 1\%$
LONG TERM DAMP HEAT	56 days	$\pm 0,5\%$ Dielectric strength : 1000 V RMS Insulation resistance : $> 10^4 \text{ M}\Omega$	$\pm 1\%$
RAPID TEMPERATURE CHANGE	5 cycles $-55^\circ\text{C}$ at $+125^\circ\text{C}$	$\pm 0,5\%$	$\frac{\Delta V_{1-2}}{V_{1-3}} \leq \pm 1\%$
SHOCKS	50 g 11 ms 3 successive shocks in 3 directions	$\pm 0,1\%$	$\pm 0,2\%$
VIBRATIONS	10 - 55 Hz 0,75 mm or 10 g during 6 hours	$\pm 0,1\%$	$\frac{\Delta V_{1-2}}{V_{1-3}} \leq \pm 0,2\%$
ROTATIONAL LIFE	200 cycles	$\pm 2\%$ Contact resistance variation : $< \pm 1\% R_n$	

## STANDARD RESISTANCE ELEMENT DATA

Table 2

Standard resistance values	LINEAR LAW			T.C. $-55^\circ\text{C}$ $+125^\circ\text{C}$
	Max. power at $+85^\circ\text{C}$	Max. working voltage	Max. cur. through element	
$\Omega$	W	V	mA	ppm/ $^\circ\text{C}$
10	0,5	2,2	224	$\pm 100$
22		3,3	150	
47		4,8	103	
100	0,5	7	70	
220		10,5	47	
470		15,3	32	
1 k		22,4	22	
2,2 k		33,2	15	
4,7 k		48,5	10	
10 k		70,7	7	
22 k		105	4,8	
47 k		153	3,2	
100 k		224	2,2	
220 k		250	1,1	
470 k		250	0,53	
1 M		250	0,25	
2,2 M		250	0,11	

## MARKING

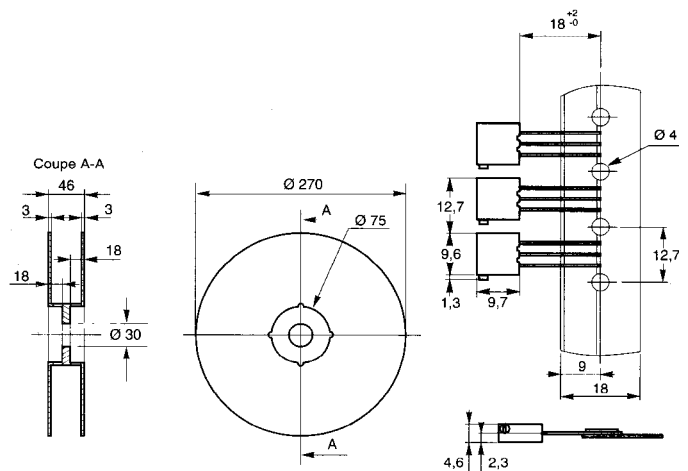
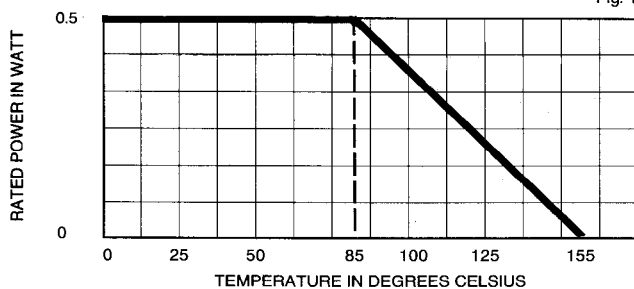
Printed, according to specification NF C 83251 :  
 SFERNICE logo, series, style, rated ohmic value (in  $\Omega$ , k $\Omega$ , M $\Omega$ ),  
 tolerance (in %), manufacturing date, marking of terminal 3.

## PACKAGING

- In magazine pack by 50 pieces (tube) code "TU" or no code. For models T93YA and T93XA :
- On tape and reel per 500 pieces code "TR" .
- On tape and ammpack by 250 pieces code "TM" .

## POWER RATING CHART

Fig. 1



## ORDERING PROCEDURE

