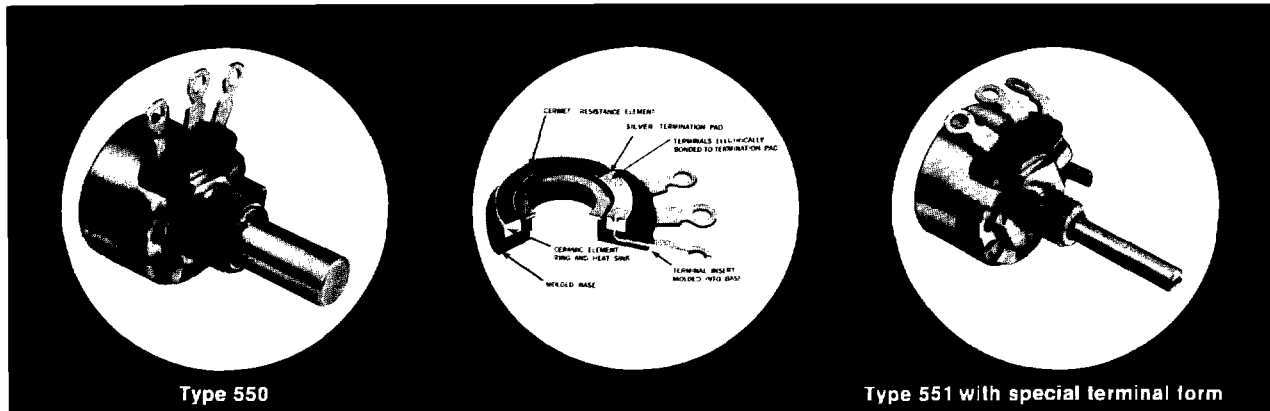


# CTS Series 550

## 3/4" Diameter, 2 watt cermet variable resistors

- high stability and reliability
- low noise, long life
- excellent high frequency characteristics
- solder lug or PC terminals
- infinite resolution
- excellent overload capacity
- multiple section controls available
- molded terminal base
- available with SPST power switch
- metal or insulated (high voltage) shafts



## Electrical and Mechanical Specifications

### Resistance Range

STANDARD: 50 ohms through 5 megohms (linear taper)  
 SPECIAL: Other values available upon request.

### Resistance Tolerance

STANDARD:  $\pm 20\%$   
 SPECIAL:  $\pm 10\%$

### Power Ratings, Watts

Single section control: 2 watts at 70°C\*  
 Dual section control: combined wattage at 70°C\*

Panel	2.0	1.8	1.3	.9	.6	.0
Rear	.0	.72	1.3	1.8	1.86	2.0

\*derated to no load at 150°C. Linear taper, control mounted on a 4" x 4" x .050" steel panel. (For non-linear tapers, reduce rating by 50%.)

### Independent Linearity

STANDARD:  $\pm 5\%$   
 SPECIAL:  $\pm 3\%$

### Voltage Rating

#### TERMINALS TO CASE

High pot test, one minute - 1000 VAC  
 At 3.4" mercury - 450 VAC  
 Operating maximum - 500 VDC

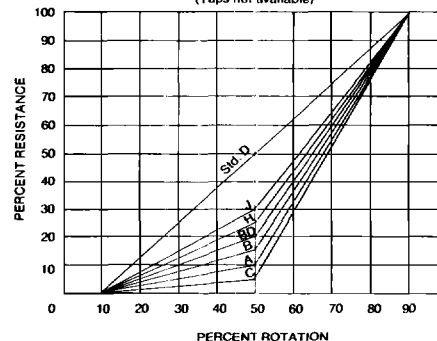
#### ACROSS END TERMINALS

350 VDC, load not to exceed wattage rating

### Resistance Tapers

STANDARD: Linear  
 SPECIAL: Non-linear

STANDARD LINEAR & TAPERED CURVES  
 (Taps not available)



CTS Tapers	% Resistance at 50% Rotation
Std. D	50%
C	5%
A	10%
B	15%
BD	20%
H	25%
J	30%

## Electrical and Mechanical Specifications (continued)

### CRV

STANDARD:  $\pm 3\%$

### Taps

Not available

### Attenuator Circuits Available

T-Pad, Bridged T-Pad, L-Pad, Others

### Power Switches

CTS type 055 (SPST) 3 amps, 125 VAC

### Angle of Rotation

TOTAL ROTATION:  $280^\circ \pm 5^\circ$   
EFFECTIVE ELECTRICAL ROTATION:  $256^\circ \pm 3^\circ$

### Turning Torque

1 to 6 inch-ounces

### Shaft Information

DIAMETER: See DWGS, pages 4 and 5.  
LENGTH AND TRIM: As required.

### Bushing Information

DIAMETER: Type 550— $3/8"$ -32 UNEF-2A thread.  
Type 551— $1/4"$ -32 UNEF-2A thread

STANDARD LENGTH: Non-locking  $3/8"$ ,  
locking  $1/2"$

SPECIAL LENGTHS: Available as required in  
increments of  $1/8"$

### Locating Lugs

STANDARD POSITION - left side terminals  
down supplied unless otherwise specified.

OTHER POSITIONS - available with lug right side  
terminals down, without lugs, or with lugs both  
left and right side.

### Mounting Hardware

Available hardware shown in General Information.

### Optional Features

Panel and shaft seal  
High voltage construction  
High torque construction

## Environmental Performance Characteristics

Load Life: Allowable resistance change after 1000 hours  $\pm 6\%$

Rotational Life: Allowable resistance change:

Single unit - Standard bushing after 50,000 cycles  $\pm 5\%$   
Single unit - Standard bushing after 100,000 cycles  $\pm 10\%$   
Dual unit - Standard bushing after 25,000 cycles  $\pm 5\%$   
Single & Dual unit - Locking type bushing after 1,000 cycles  $\pm 5\%$

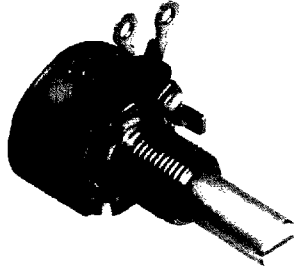
Moisture Resistance: Allowable resistance change  $\pm 4\%$

Temperature Coefficient:

STANDARD:  $\pm 250$  PPM/ $^\circ$ C  
SPECIAL: Available upon request

Temperature Cycling: Allowable resistance change after test  $\pm 3\%$

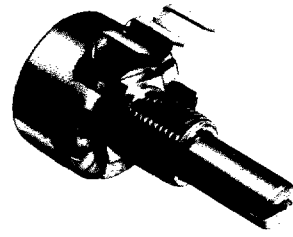
**Type 550**  
(1/4" diameter shaft)



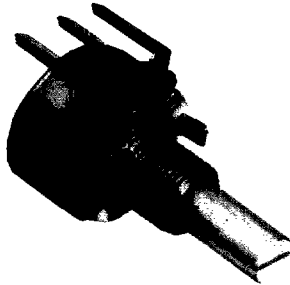
**Type LT551**  
(1/8" diameter shaft;  
special terminal form illustrated)



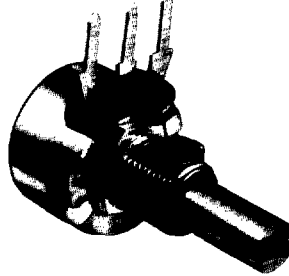
**Type U550**



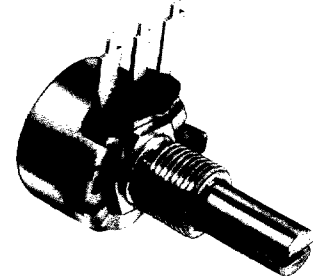
**Type V550**



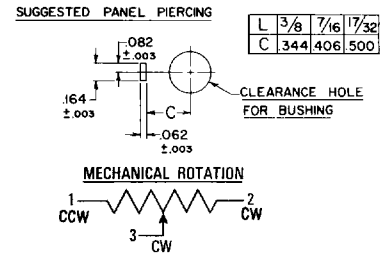
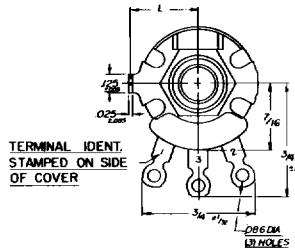
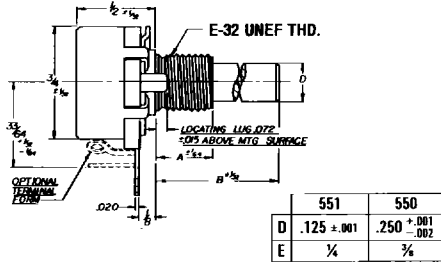
**Type X550**



**Type Y550**

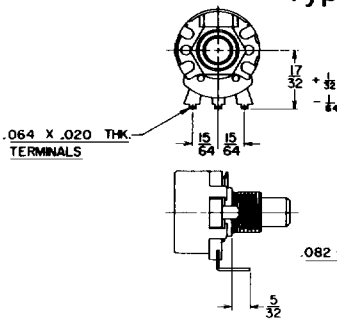


**Types 550 & 551**

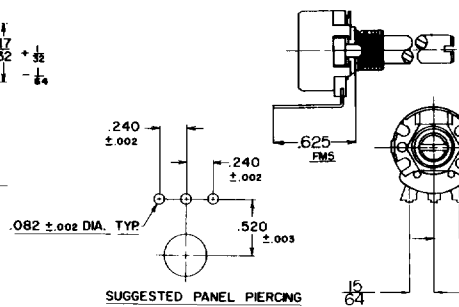


**Printed circuit versions**

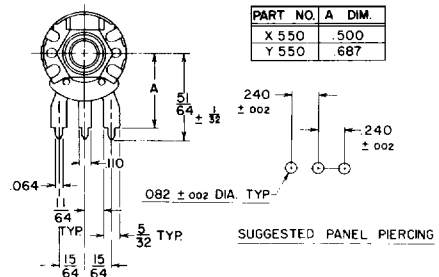
**Type U550**



**Type V550**



**Types X550 & Y550**



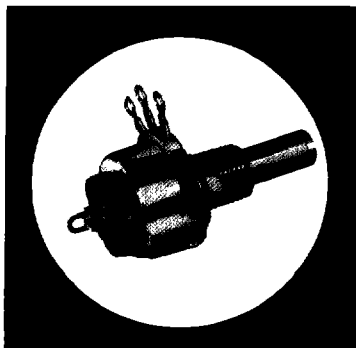
GENERAL TOLERANCES: Decimal dimensions ±.005".  
Fractional dimensions ±1/64".

**CTS series 055 thin profile spst power switch**

(Switch features a completely non-combustible housing material.)

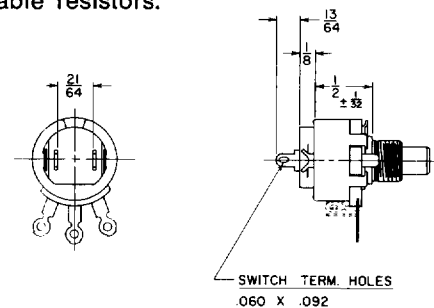
The 055 switch is offered in combination with CTS 550 series cermet variable resistors.

**CTS Type 055 - 550**



**Switch Specifications:**

- CTS Series ..... 055
- Type ..... Rotary
- Contact Arrangement ... SPST
- Electrical Rating ..... 3 amp,  
125 VAC
- Actuating Distance ... 30° Max.
- Actuating Torque 1 to 6 in. oz.

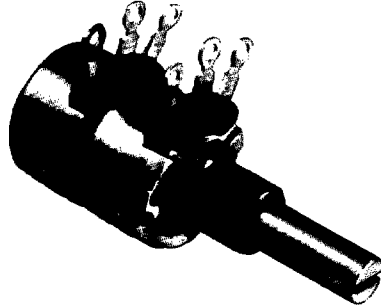


Series 055 SPST power switch actuates "ON" at the beginning of clockwise rotation. It is available on all single, straight tandem and concentric tandem constructions except type Special C2-551.

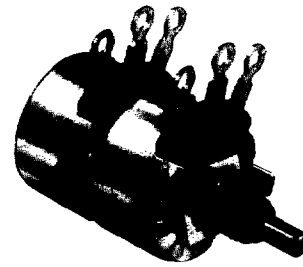
# Constructions

(terminal styles illustrated are available on all constructions)

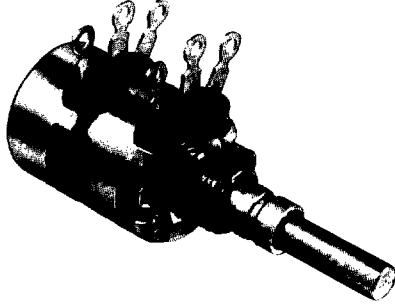
Type 2-550



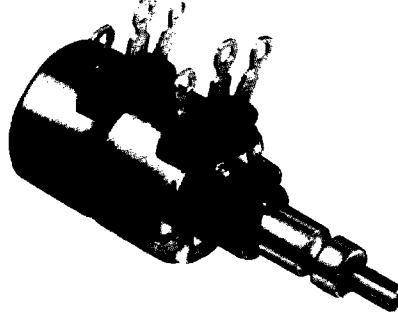
Type 2-551



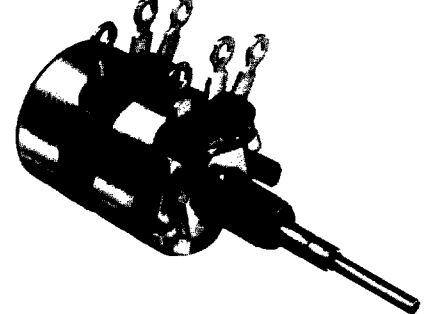
Type C2-550



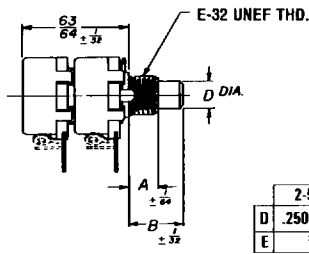
Type C2-551



Type Special C2-551

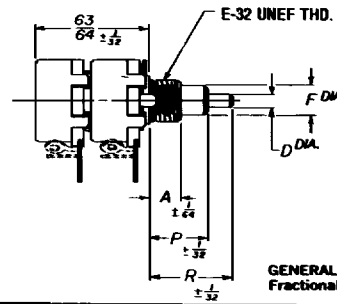


Straight tandem and concentric tandem constructions  
Types 2-550 & 2-551



	2-550	2-551
D	.250 $\pm$ .001	.125 $\pm$ .001
E	$\frac{3}{4}$	$\frac{3}{4}$

Types C2-550, C2-551, Special C2-551



	SPECIAL C2-551	C2-551	C2-550
D	.076 $\pm$ .001	.125 $\pm$ .001	.187 $\pm$ .001
F	.125 $\pm$ .002	.250 $\pm$ .001	.265 $\pm$ .001
E	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$

GENERAL TOLERANCES: Decimal dimensions  $\pm$ .005".  
Fractional dimensions  $\pm$ 1/64".

## standard shaft trim

### Flatted for Push-On or Set Screw Knobs

type knob	shaft diameter	measurement B (std.)	chamfer (std.)
Push-on	.125"	.086" $\pm$ .003"*	$\frac{1}{4}$ " x 45°
Push-on	.250"	.156" $\pm$ .003"*	$\frac{1}{2}$ " x 45°
Set screw	.250"	.218" $\pm$ .003"	$\frac{1}{2}$ " x 45°

### Screwdriver Slot

shaft diameter	measurement A (max.)	measurement B (std.)	chamfer (std.)
.125"	.063" + .015" - .000"	.031" $\pm$ .005"	$\frac{1}{4}$ " x 45°
.250"	.063" + .015" - .000"	.047" $\pm$ .005"	$\frac{1}{2}$ " x 45°

\*Tolerances shown applicable to flat lengths of  $\frac{3}{4}$ " and less. Tolerances for flat lengths over  $\frac{3}{4}$ " upon request.

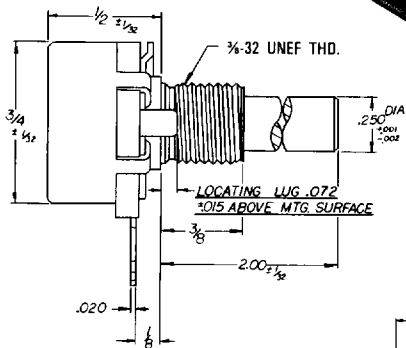
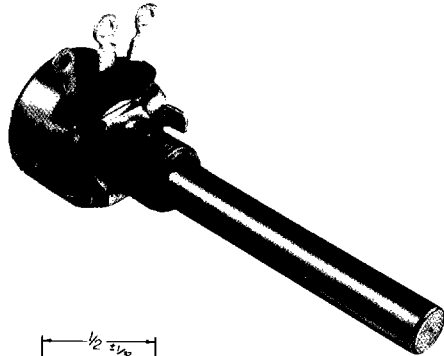
## Order From:

CTS CORPORATION/Brownsville Division/dba CTS Electronics Corporation/100 Roosevelt Street  
Post Office Box 2420/Brownsville, Texas 78521/Telephone (512) 546-5184/FAX 512-546-3806

# CTS 550 series controls

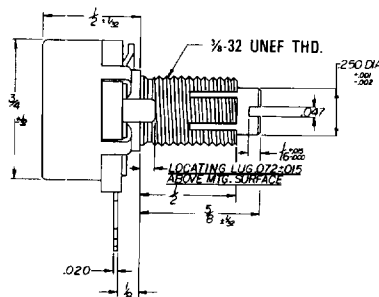
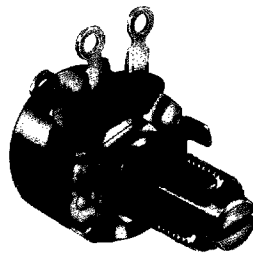
## Type 550S

Bushing: 3/8" non-locking  
Shaft: 1/4" diameter x 2" FMS. Round



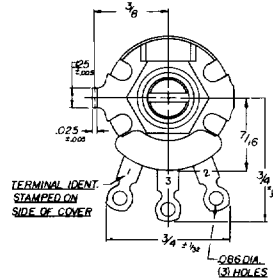
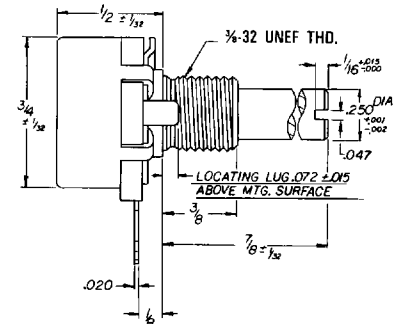
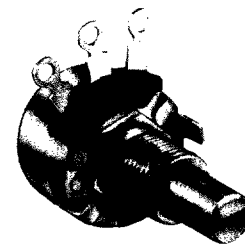
## Type 550LT

Bushing: 1/2" locking  
Shaft: 1/4" diameter x 5/8" FMS. Slotted

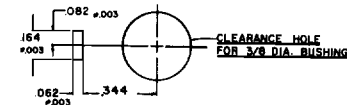


## Type 550R

Bushing: 3/8" non-locking  
Shaft: 1/4" diameter x 7/8" FMS. Slotted



### SUGGESTED PANEL PIERCING



GENERAL TOLERANCES: Decimal dimensions ± .005".  
Fractional dimensions ± 1/64".

## Ordering Information

CTS types 550S, 550LT and 550R are available under the following part numbers:

Resistance Value in ohms	Type and Part Number		
	550S	550LT	550R
50 ± 10%	550S500A	550LT500A	550R500A
100 ± 10%	550S101A	550LT101A	550R101A
250 ± 10%	550S251A	550LT251A	550R251A
500 ± 10%	550S501A	550LT501A	550R501A
1000 ± 10%	550S102A	550LT102A	550R102A
2500 ± 10%	550S252A	550LT252A	550R252A
5000 ± 10%	550S502A	550LT502A	550R502A
10,000 ± 10%	550S103A	550LT103A	550R103A
25,000 ± 10%	550S253A	550LT253A	550R253A
50,000 ± 10%	550S503A	550LT503A	550R503A
100,000 ± 10%	550S104A	550LT104A	550R104A
250,000 ± 10%	550S254A	550LT254A	550R254A
500,000 ± 10%	550S504A	550LT504A	550R504A
1 Meg ± 20%	550S105B	550LT105B	550R105B

Additional resistance values available by special order request.