

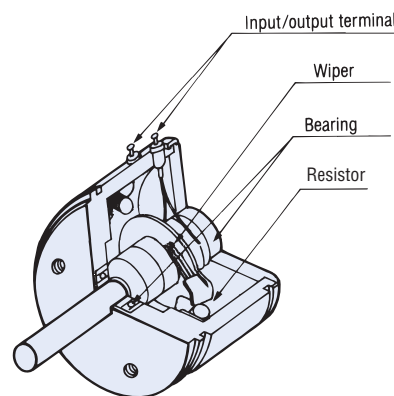
# WIREWOUND SINGLE TURN TYPE

# J series

## RoHS compliant



## Basic construction Wirewound single turn type



## FEATURES

- High linearity through precision wire winding
- Long life
- High following characteristics
- Low noise
- RoHS compliant

## PART NUMBER DESIGNATION

	<u>J 50 S</u>	<u>5 0 0</u>	
Series name		Nominal resistance value ( $\Omega$ )	
J40S		500, 1 k, 2 k, 5 k, 10 k, 20 k, 50 k	
J45S			
J50S			

## LIST OF PART NUMBERS

Size	Item	Nominal resistance value	Part number
$\phi 40$ mm		500 $\Omega$	J40S 500
		1 k $\Omega$	J40S 1 k
		2 k $\Omega$	J40S 2 k
		5 k $\Omega$	J40S 5 k
		10 k $\Omega$	J40S 10 k
$\phi 44.45$ mm		500 $\Omega$	J45S 500
		1 k $\Omega$	J45S 1 k
		2 k $\Omega$	J45S 2 k
		5 k $\Omega$	J45S 5 k
		10 k $\Omega$	J45S 10 k
		20 k $\Omega$	J45S 20 k
$\phi 50.8$ mm		50 k $\Omega$	J45S 50 k
		500 $\Omega$	J50S 500
		1 k $\Omega$	J50S 1 k
		2 k $\Omega$	J50S 2 k
		5 k $\Omega$	J50S 5 k
		10 k $\Omega$	J50S 10 k
		20 k $\Omega$	J50S 20 k
		50 k $\Omega$	J50S 50 k

※ Verify the above part numbers when placing orders.

## STANDARD SPECIFICATIONS

Item	Part number	J40S	J45S	J50S
Resistance tolerance	%	$\pm 5$		
Effective electrical angle		$350^\circ \pm 1.5^\circ$	$353^\circ \pm 1.5^\circ$	$355^\circ \pm 1.5^\circ$
Mechanical angle		360° continuous		
Power rating (at 40 °C)	W	1	1.3	1.5
Dielectric strength	Vrms	1000 1 min		
Insulation resistance	M $\Omega$ minimum	1000 (at DC500 V)		
Rotational torque	mN·m {gf·cm} maximum	0.59 {6}		0.69 {7}
Peak noise	$\Omega$ maximum	10 (4 min <sup>-1</sup> )		
Temp. coefficient of resistance	ppm/°C	$\pm 50$		
Operating temp. range	°C	-55 ~ 85		
Maximum rotational speed	min <sup>-1</sup>	100	200	
Net weight	g	Approx. 58	Approx. 60	Approx. 73
Connecting accuracy		$\pm 1^\circ$ Based on No. 1 terminal		
Protection grade		IP40		

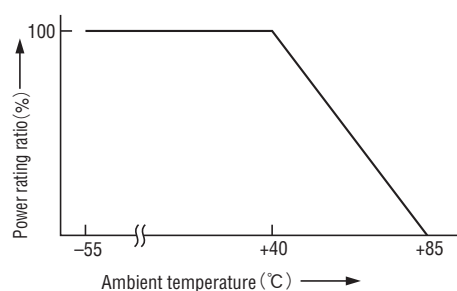
# J40S/J45S/J50S

## POTENTIOMETERS

### RESISTANCE VALUES, RESOLUTION, INDEPENDENT LINEARITY, ROTATIONAL LIFE

Nominal resistance value ( $\Omega$ )	Resolution (%)			Independent linearity (%)			Rotational life (million cycles)		
	J40S	J45S	J50S	J40S	J45S	J50S	J40S	J45S	J50S
500	0.13	0.12	0.1	$\pm 0.15$	$\pm 0.1$	$\pm 0.1$	5	10	10
1 k	0.1	0.1	0.08						
2 k	0.08	0.07	0.06						
5 k	0.07	0.08	0.07						
10 k		0.07	0.05	—	$\pm 0.15$	$\pm 0.15$	1	1	1
20 k	—	0.05							
50 k		0.04	0.03						

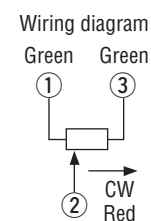
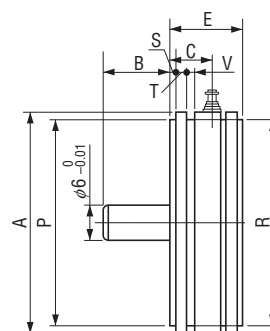
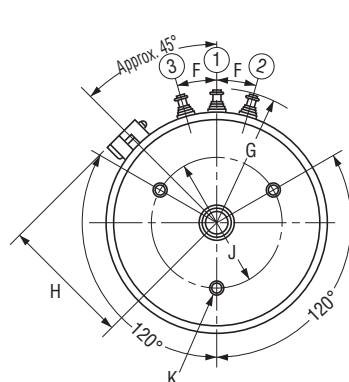
### RATED POWER DERATING CURVE



### OUTLINE DIMENSIONS

(Unit : mm)

- J40S
- J45S
- J50S



#### List of outline dimensions

Part number / Marks	A	B	C	E	F	G	H	J	K	P	R	S	T	V
J40S	φ 40	20	13.3	20	16°	R25	25	φ 30	M 3 (P = 0.5) D = 3.0 minimum	φ 37 <sup>0</sup> <sub>-0.03</sub>	φ 37	1.57	2.36	1.86
J45S	φ 44.45		10.5	16.6	14°	R26.8	26.7			φ 39.68 <sup>0</sup> <sub>-0.025</sub>	φ 40.6			
J50S	φ 50.8				12°	R30	30			φ 47.62 <sup>0</sup> <sub>-0.025</sub>	φ 47.6			

# Mouser Electronics

Authorized Distributor

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Nidec:

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[J50S 500](#) [J50S 50K](#) [J45S 1K](#) [J45S 20K](#) [J45S 2K](#) [J45S 500](#) [J45S 50K](#) [J45S 5K](#)