



TY1 SERIES (SL)

18 to 220pF, 3 to 20kV
High Voltage Ceramic Capacitors



Features

- Radial Leaded Package
- SL Temperature Characteristics

Specifications

Part Number	Value									
	C Typical Cap. (pF)	Tolerance (±%)	V _{RATED} Max. Rated Voltage (kVDC)	V _{WITHSTAND} Dielectric Withstand Voltage (kVDC)	D Max. Dia. (mm)	H Max. Height (mm)	T Max. Thickness (mm)	L Min. Lead Length (mm)	Ls Max. Lead Spacing (mm) ±1.5mm tolerance	d Typical Lead Dia. (mm)
TY1SL100-3KV	10	K,M,Z	3.0	6.0	6.0	9.0	4.0	25.0	7.5	0.5
TY1SL180-3KV	18	K,M,Z	3.0	6.0	7.0	10.0	4.0	25.0	7.5	0.6
TY1SL220-3KV	22	K,M,Z	3.0	6.0	7.0	10.0	4.0	25.0	7.5	0.6
TY1SL270-3KV	27	K,M,Z	3.0	6.0	7.0	10.0	4.0	25.0	7.5	0.6
TY1SL300-3KV	30	K,M,Z	3.0	6.0	7.0	10.0	4.0	25.0	7.5	0.6
TY1SL330-3KV	33	K,M,Z	3.0	6.0	7.0	10.0	4.0	25.0	7.5	0.6
TY1SL470-3KV	47	K,M,Z	3.0	6.0	8.0	11.0	4.0	25.0	7.5	0.6
TY1SL680-3KV	68	K,M,Z	3.0	6.0	9.0	12.0	4.0	25.0	7.5	0.6
TY1SL820-3KV	82	K,M,Z	3.0	6.0	9.0	12.0	4.0	25.0	7.5	0.6
TY1SL910-3KV	91	K,M,Z	3.0	6.0	10.0	13.0	4.0	25.0	7.5	0.6
TY1SL101-3KV	100	K,M,Z	3.0	6.0	10.0	13.0	4.0	25.0	7.5	0.6
TY1SL121-3KV	120	K,M,Z	3.0	6.0	11.0	14.0	4.0	25.0	7.5	0.6
TY1SL151-3KV	150	K,M,Z	3.0	6.0	11.0	14.0	4.0	25.0	7.5	0.6
TY1SL181-3KV	180	K,M,Z	3.0	6.0	12.0	15.0	4.0	25.0	7.5	0.6
TY1SL221-3KV	220	K,M,Z	3.0	6.0	13.0	16.0	4.0	25.0	7.5	0.6
TY1SL180-4KV	18	K,M,Z	4.0	8.0	7.0	10.0	5.0	25.0	10.0	0.6
TY1SL220-4KV	22	K,M,Z	4.0	8.0	7.0	10.0	5.0	25.0	10.0	0.6
TY1SL270-4KV	27	K,M,Z	4.0	8.0	7.0	10.0	5.0	25.0	10.0	0.6
TY1SL300-4KV	30	K,M,Z	4.0	8.0	7.0	10.0	5.0	25.0	10.0	0.6
TY1SL330-4KV	33	K,M,Z	4.0	8.0	8.0	11.0	5.0	25.0	10.0	0.6
TY1SL470-4KV	47	K,M,Z	4.0	8.0	8.0	11.0	5.0	25.0	10.0	0.6
TY1SL680-4KV	68	K,M,Z	4.0	8.0	9.0	12.0	5.0	25.0	10.0	0.6
TY1SL820-4KV	82	K,M,Z	4.0	8.0	11.0	13.0	5.0	25.0	10.0	0.6
TY1SL910-4KV	91	K,M,Z	4.0	8.0	11.0	13.0	5.0	25.0	10.0	0.6
TY1SL101-4KV	100	K,M,Z	4.0	8.0	11.0	13.0	5.0	25.0	10.0	0.6
TY1SL121-4KV	120	K,M,Z	4.0	8.0	12.0	15.0	5.0	25.0	10.0	0.6
TY1SL151-4KV	150	K,M,Z	4.0	8.0	13.0	16.0	5.0	25.0	10.0	0.6
TY1SL181-4KV	180	K,M,Z	4.0	8.0	13.0	16.0	5.0	25.0	10.0	0.6
TY1SL221-4KV	220	K,M,Z	4.0	8.0	14.0	17.0	5.0	25.0	10.0	0.6
TY1SL180-5KV	18	K,M,Z	5.0	10.0	8.0	11.0	5.5	25.0	10.0	0.6
TY1SL220-5KV	22	K,M,Z	5.0	10.0	8.0	11.0	5.5	25.0	10.0	0.6
TY1SL270-5KV	27	K,M,Z	5.0	10.0	8.0	11.0	5.5	25.0	10.0	0.6
TY1SL300-5KV	30	K,M,Z	5.0	10.0	9.0	12.0	5.5	25.0	10.0	0.6
TY1SL330-5KV	33	K,M,Z	5.0	10.0	10.0	13.0	5.5	25.0	10.0	0.6
TY1SL470-5KV	47	K,M,Z	5.0	10.0	11.0	14.0	5.5	25.0	10.0	0.6



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Part Number	Value									
	C Typical Cap. (pF)	Tolerance (±%)	V _{RATED} Max. Rated Voltage (kVDC)	V _{WITHSTAND} Dielectric Withstand Voltage (kVDC)	D Max. Dia. (mm)	H Max. Height (mm)	T Max. Thickness (mm)	L Min. Lead Length (mm)	Ls Max. Lead Spacing (mm) <i>±1.5mm tolerance</i>	d Typical Lead Dia. (mm)
TY1SL680-5KV	68	K,M,Z	5.0	10.0	12.0	15.0	5.5	25.0	10.0	0.6
TY1SL820-5KV	82	K,M,Z	5.0	10.0	12.0	15.0	5.5	25.0	10.0	0.6
TY1SL910-5KV	91	K,M,Z	5.0	10.0	13.0	16.0	5.5	25.0	10.0	0.6
TY1SL101-5KV	100	K,M,Z	5.0	10.0	13.0	16.0	5.5	25.0	10.0	0.6
TY1SL121-5KV	120	K,M,Z	5.0	10.0	14.0	17.0	5.5	25.0	10.0	0.6
TY1SL151-5KV	150	K,M,Z	5.0	10.0	15.0	18.0	5.5	25.0	10.0	0.6
TY1SL181-5KV	180	K,M,Z	5.0	10.0	16.0	19.0	5.5	25.0	10.0	0.6
TY1SL221-5KV	220	K,M,Z	5.0	10.0	17.0	20.0	5.5	25.0	10.0	0.6
TY1SL100-6KV	10	K,M,Z	6.0	12.0	8.0	11.0	6.0	25.0	10.0	0.6
TY1SL180-6KV	18	K,M,Z	6.0	12.0	8.0	11.0	6.0	25.0	10.0	0.6
TY1SL220-6KV	22	K,M,Z	6.0	12.0	8.0	11.0	6.0	25.0	10.0	0.6
TY1SL270-6KV	27	K,M,Z	6.0	12.0	9.0	12.0	6.0	25.0	10.0	0.6
TY1SL300-6KV	30	K,M,Z	6.0	12.0	9.0	12.0	6.0	25.0	10.0	0.6
TY1SL330-6KV	33	K,M,Z	6.0	12.0	10.0	13.0	6.0	25.0	10.0	0.6
TY1SL470-6KV	47	K,M,Z	6.0	12.0	12.0	15.0	6.0	25.0	10.0	0.6
TY1SL680-6KV	68	K,M,Z	6.0	12.0	12.0	15.0	6.0	25.0	10.0	0.6
TY1SL820-6KV	82	K,M,Z	6.0	12.0	13.0	16.0	6.0	25.0	10.0	0.6
TY1SL910-6KV	91	K,M,Z	6.0	12.0	13.0	16.0	6.0	25.0	10.0	0.6
TY1SL101-6KV	100	K,M,Z	6.0	12.0	14.0	17.0	6.0	25.0	10.0	0.6
TY1SL121-6KV	120	K,M,Z	6.0	12.0	15.0	18.0	6.0	25.0	10.0	0.6
TY1SL151-6KV	150	K,M,Z	6.0	12.0	16.0	19.0	6.0	25.0	10.0	0.6
TY1SL181-6KV	180	K,M,Z	6.0	12.0	17.0	20.0	6.0	25.0	10.0	0.6
TY1SL221-6KV	220	K,M,Z	6.0	12.0	19.0	22.0	6.0	25.0	10.0	0.6
TY1SL180-8KV	18	K,M,Z	8.0	16.0	8.0	11.0	6.5	25.0	10.0	0.6
TY1SL220-8KV	22	K,M,Z	8.0	16.0	8.0	11.0	6.5	25.0	10.0	0.6
TY1SL270-8KV	27	K,M,Z	8.0	16.0	9.0	12.0	6.5	25.0	10.0	0.6
TY1SL300-8KV	30	K,M,Z	8.0	16.0	10.0	13.0	6.5	25.0	10.0	0.6
TY1SL330-8KV	33	K,M,Z	8.0	16.0	10.0	13.0	6.5	25.0	10.0	0.6
TY1SL470-8KV	47	K,M,Z	8.0	16.0	11.0	14.0	6.5	25.0	10.0	0.6
TY1SL680-8KV	68	K,M,Z	8.0	16.0	12.0	15.0	6.5	25.0	10.0	0.6
TY1SL820-8KV	82	K,M,Z	8.0	16.0	13.0	16.0	6.5	25.0	10.0	0.6
TY1SL910-8KV	91	K,M,Z	8.0	16.0	14.0	17.0	6.5	25.0	10.0	0.6
TY1SL101-8KV	100	K,M,Z	8.0	16.0	14.0	17.0	6.5	25.0	10.0	0.6
TY1SL121-8KV	120	K,M,Z	8.0	16.0	15.0	18.0	6.5	25.0	10.0	0.6
TY1SL151-8KV	150	K,M,Z	8.0	16.0	16.0	19.0	6.5	25.0	10.0	0.6
TY1SL181-8KV	180	K,M,Z	8.0	16.0	17.0	20.0	6.5	25.0	10.0	0.6
TY1SL221-8KV	220	K,M,Z	8.0	16.0	19.0	22.0	6.5	25.0	10.0	0.6
TY1SL100-10KV	10	K,M,Z	10.0	20.0	8.0	11.0	6.0	25.0	10.0	0.6
TY1SL180-10KV	18	K,M,Z	10.0	20.0	8.0	11.0	7.0	25.0	10.0	0.6
TY1SL220-10KV	22	K,M,Z	10.0	20.0	9.0	12.0	7.0	25.0	10.0	0.6
TY1SL270-10KV	27	K,M,Z	10.0	20.0	10.0	13.0	7.0	25.0	10.0	0.6
TY1SL300-10KV	30	K,M,Z	10.0	20.0	10.0	13.0	7.0	25.0	10.0	0.6
TY1SL330-10KV	33	K,M,Z	10.0	20.0	10.0	13.0	7.0	25.0	10.0	0.6



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	C Typical Cap. (pF)	Tolerance (±%)	V _{RATED} Max. Rated Voltage (kVDC)	V _{WITHSTAND} Dielectric Withstand Voltage (kVDC)	D Max. Dia. (mm)	H Max. Height (mm)	T Max. Thickness (mm)	L Min. Lead Length (mm)	Ls Max. Lead Spacing (mm) <i>±1.5mm tolerance</i>	d Typical Lead Dia. (mm)
TY1SL470-10KV	47	K,M,Z	10.0	20.0	11.0	14.0	7.0	25.0	10.0	0.6
TY1SL680-10KV	68	K,M,Z	10.0	20.0	13.0	16.0	7.0	25.0	10.0	0.6
TY1SL820-10KV	82	K,M,Z	10.0	20.0	14.0	17.0	7.0	25.0	10.0	0.6
TY1SL910-10KV	91	K,M,Z	10.0	20.0	15.0	18.0	7.0	25.0	10.0	0.6
TY1SL101-10KV	100	K,M,Z	10.0	20.0	15.0	18.0	7.0	25.0	10.0	0.6
TY1SL121-10KV	120	K,M,Z	10.0	20.0	17.0	20.0	7.0	25.0	10.0	0.6
TY1SL151-10KV	150	K,M,Z	10.0	20.0	19.0	22.0	7.0	25.0	10.0	0.6
TY1SL181-10KV	180	K,M,Z	10.0	20.0	21.0	24.0	7.5	25.0	10.0	0.7
TY1SL221-10KV	220	K,M,Z	10.0	20.0	23.0	26.0	7.5	25.0	10.0	0.7
TY1SL180-12KV	18	K,M,Z	12.0	24.0	9.0	12.0	8.0	25.0	12.5	0.6
TY1SL220-12KV	22	K,M,Z	12.0	24.0	10.0	13.0	8.0	25.0	12.5	0.6
TY1SL270-12KV	27	K,M,Z	12.0	24.0	10.0	13.0	8.0	25.0	12.5	0.6
TY1SL300-12KV	30	K,M,Z	12.0	24.0	10.0	13.0	8.0	25.0	12.5	0.6
TY1SL330-12KV	33	K,M,Z	12.0	24.0	11.0	14.0	8.0	25.0	12.5	0.6
TY1SL470-12KV	47	K,M,Z	12.0	24.0	12.0	15.0	8.0	25.0	12.5	0.6
TY1SL680-12KV	68	K,M,Z	12.0	24.0	14.0	17.0	8.0	25.0	12.5	0.6
TY1SL820-12KV	82	K,M,Z	12.0	24.0	15.0	18.0	8.0	25.0	12.5	0.6
TY1SL910-12KV	91	K,M,Z	12.0	24.0	16.0	19.0	8.0	25.0	12.5	0.6
TY1SL101-12KV	100	K,M,Z	12.0	24.0	16.0	19.0	8.0	25.0	12.5	0.6
TY1SL121-12KV	120	K,M,Z	12.0	24.0	18.0	21.0	8.0	25.0	12.5	0.6
TY1SL151-12KV	150	K,M,Z	12.0	24.0	19.0	22.0	8.0	25.0	12.5	0.6
TY1SL181-12KV	180	K,M,Z	12.0	24.0	20.0	23.0	8.5	25.0	12.5	0.7
TY1SL221-12KV	220	K,M,Z	12.0	24.0	22.0	25.0	8.5	25.0	12.5	0.7
TY1SL100-15KV	10	K,M,Z	15.0	30.0	9.0	14.0	5.0	25.0	7.5	0.6
TY1SL180-15KV	18	K,M,Z	15.0	30.0	9.0	12.0	8.5	25.0	12.5	0.6
TY1SL200-15KV	20	K,M,Z	15.0	30.0	10.0	14.0	9.0	25.0	10.0	0.6
TY1SL220-15KV	22	K,M,Z	15.0	30.0	10.0	13.0	8.5	25.0	12.5	0.6
TY1SL270-15KV	27	K,M,Z	15.0	30.0	12.0	15.0	8.5	25.0	12.5	0.6
TY1SL300-15KV	30	K,M,Z	15.0	30.0	12.0	15.0	8.5	25.0	12.5	0.6
TY1SL330-15KV	33	K,M,Z	15.0	30.0	12.0	15.0	8.5	25.0	12.5	0.6
TY1SL470-15KV	47	K,M,Z	15.0	30.0	13.0	16.0	8.5	25.0	12.5	0.6
TY1SL680-15KV	68	K,M,Z	15.0	30.0	15.0	18.0	8.5	25.0	12.5	0.6
TY1SL820-15KV	82	K,M,Z	15.0	30.0	16.0	19.0	8.5	25.0	12.5	0.6
TY1SL910-15KV	91	K,M,Z	15.0	30.0	17.0	20.0	8.5	25.0	12.5	0.6
TY1SL101-15KV	100	K,M,Z	15.0	30.0	18.0	21.0	8.5	25.0	12.5	0.6
TY1SL121-15KV	120	K,M,Z	15.0	30.0	20.0	23.0	9.0	25.0	12.5	0.7
TY1SL151-15KV	150	K,M,Z	15.0	30.0	22.0	25.0	9.0	25.0	12.5	0.7
TY1SL181-15KV	180	K,M,Z	15.0	30.0	23.0	27.0	9.0	25.0	12.5	0.7
TY1SL221-15KV	220	K,M,Z	15.0	30.0	25.0	29.0	9.0	25.0	12.5	0.7
TY1SL180-20KV	18	K,M,Z	20.0	40.0	10.0	14.0	10.0	25.0	12.5	0.7
TY1SL200-20KV	20	K,M,Z	20.0	40.0	10.0	13.0	8.5	25.0	12.5	0.7
TY1SL220-20KV	22	K,M,Z	20.0	40.0	11.0	15.0	10.0	25.0	12.5	0.7
TY1SL270-20KV	27	K,M,Z	20.0	40.0	13.0	17.0	10.0	25.0	12.5	0.7

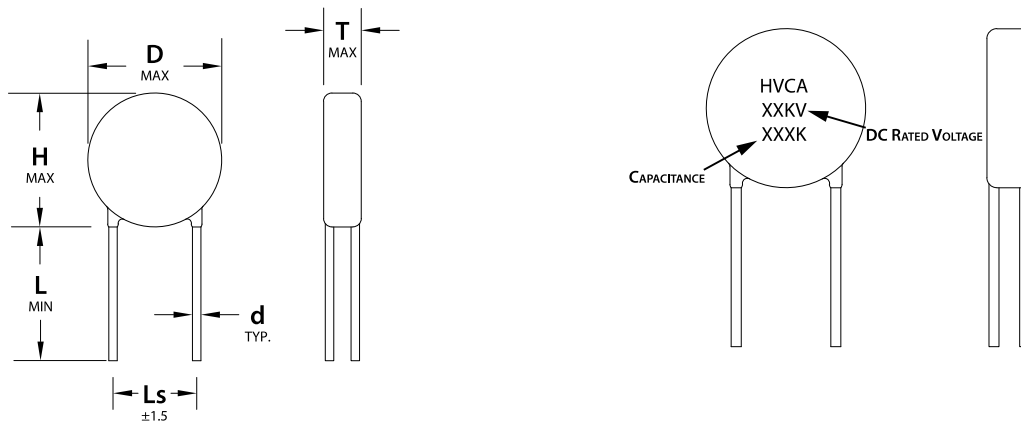


TY1 SERIES (SL)

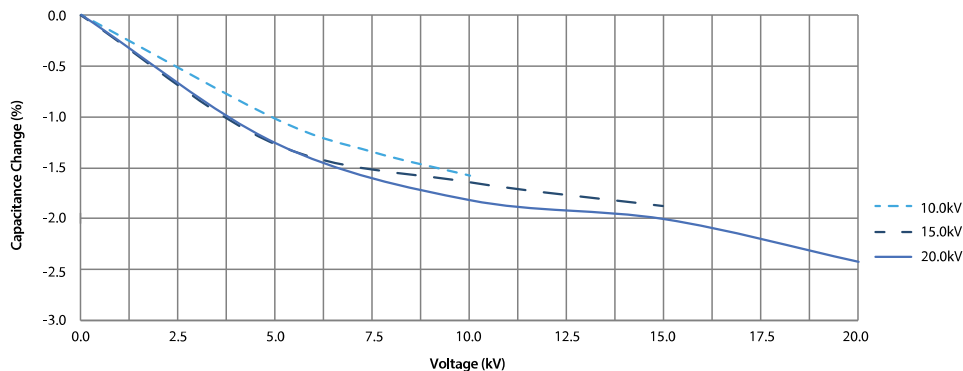
Part Number	Value									
	C Typical Cap. (pF)	Tolerance (±%)	V _{RATED} Max. Rated Voltage (kVDC)	V _{WITHSTAND} Dielectric Withstand Voltage (kVDC)	D Max. Dia. (mm)	H Max. Height (mm)	T Max. Thickness (mm)	L Min. Lead Length (mm)	Ls Max. Lead Spacing (mm) ±1.5mm tolerance	d Typical Lead Dia. (mm)
TY1SL300•20KV	30	K,M,Z	20.0	40.0	13.0	17.0	10.0	25.0	12.5	0.7
TY1SL330•20KV	33	K,M,Z	20.0	40.0	13.0	17.0	10.0	25.0	12.5	0.7
TY1SL470•20KV	47	K,M,Z	20.0	40.0	15.0	19.0	10.0	25.0	12.5	0.7
TY1SL680•20KV	68	K,M,Z	20.0	40.0	17.0	21.0	10.0	25.0	12.5	0.7
TY1SL820•20KV	82	K,M,Z	20.0	40.0	18.0	22.0	10.0	25.0	12.5	0.7
TY1SL910•20KV	91	K,M,Z	20.0	40.0	19.0	23.0	10.0	25.0	12.5	0.7
TY1SL101•20KV	100	K,M,Z	20.0	40.0	19.0	23.0	10.0	25.0	12.5	0.7
TY1SL121•20KV	120	K,M,Z	20.0	40.0	21.0	25.0	10.0	25.0	12.5	0.7
TY1SL151•20KV	150	K,M,Z	20.0	40.0	23.0	27.0	10.0	25.0	12.5	0.7
TY1SL181•20KV	180	K,M,Z	20.0	40.0	26.0	30.0	10.0	25.0	12.5	0.7
TY1SL221•20KV	220	K,M,Z	20.0	40.0	28.0	32.0	10.0	25.0	12.5	0.7

Note: TY1SL models are offered with K (± 10%), M (± 20%), and Z (+80%, -20%) capacitance tolerances. Substitute the "*" in the part number with the preferred tolerance. Inquire for additional information.

Drawings and Characteristics



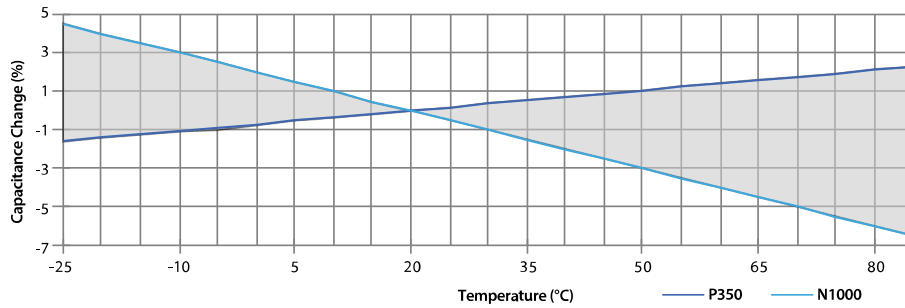
SL TYPICAL VOLTAGE CHARACTERISTICS CURVE



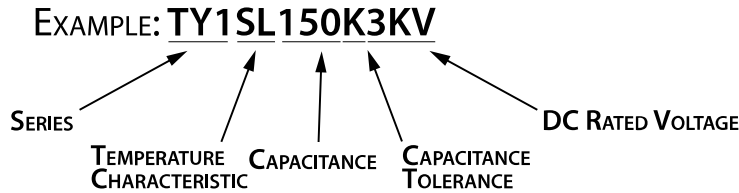


TY1 SERIES (SL)

SL TYPICAL TEMPERATURE CHARACTERISTICS CURVE



Part Number Decoder:



Capacitance Decoder:

For capacitance values 100pF and higher, the first and second digits are significant digits, while the third digit expresses the number of zeros to follow the two significant digits. For example, 152 = 1500pF, since the 1 and the 5 are the significant digits with 2 zeros that follow.

For capacitance values less than 10pF, digits before the "R" are significant digits, while digits after the "R" are the decimal values after the significant digits. For example, 4R7 = 4.7pF, since the 4 is the significant digit while the 7 is the digit after the decimal.

Additional Specifications		
T_{OP}	Operating Temperature Range	-25 to +100°C
TC	Temperature Coefficient	-25 to +85°C
DF	Dissipation Factor	Q ≥ 400 C < 30pF, +20°C
		Q ≥ 1000 C < 30pF



Note: Specifications subject to change without notice. Photo is representation only.