EPCOS Product Profile 2012

Power Capacitors

for Industrial Applications and Renewable Energy

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Power Capacitors for
Industrial Applications and Renewable Energy

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Important Notes

The following applies to all products named in this publication:

1. Some parts of this publication contain **statements about the suitability of our products for certain areas of application**. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. We nevertheless expressly point out **that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application**. As a rule, EPCOS is either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether an EPCOS product with the properties described in the product specification is suitable for use in a particular customer application.

2. We also point out that **in individual cases, a malfunction of electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified**. In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health (e.g. in accident prevention or life-saving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of an electronic component.

3. **The warnings, cautions and product-specific notes must be observed**.

4. In order to satisfy certain technical requirements, **some of the products described in this publication may contain substances subject to restrictions in certain jurisdictions (e.g. because they are classed as hazardous)**. Useful information on this will be found in our Material Data Sheets on the Internet (www.epcos.com/material). Should you have any more detailed questions, please contact our sales offices.

5. We constantly strive to improve our products. Consequently, **the products described in this publication may change from time to time**. The same is true of the corresponding product specifications. Please check therefore to what extent product descriptions and specifications contained in this publication are still applicable before or when you place an order.

   We **also reserve the right to discontinue production and delivery of products**. Consequently, we cannot guarantee that all products named in this publication will always be available.

   The aforementioned does not apply in the case of individual agreements deviating from the foregoing for customer-specific products.

6. Unless otherwise agreed in individual contracts, **all orders are subject to the current version of the "General Terms of Delivery for Products and Services in the Electrical Industry" published by the German Electrical and Electronics Industry Association (ZVEI).**

7. The trade names EPCOS, BAOKE, Alu-X, CeraDiode, CSMP, CSSP, CTVS, DeltaCap, DigiSiMic, DSSP, FormFit, MiniBlue, MiniCell, MKD, MKK, MLSC, MotorCap, PCC, PhaseCap, PhaseCube, PhaseMod, PhiCap, SIFERRIT, SIFI, SIKOREL, SilverCap, SIMDAD, SiMic, SIMID, SineFormer, SIOV, SIP5D, SIP5K, ThermoFuse, WindCap are **trademarks registered or pending** in Europe and in other countries. Further information will be found on the Internet at www.epcos.com/trademarks.

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Power Capacitors
for Solar Inverter in Photovoltaic Systems

Bene ts
- Overvoltage and overcurrent protection
- Long-term stability and reliability
- Approved materials and components acc. to UL
- Self-healing properties
- Lower equivalent serial resistance (ESR) and inductance (ESL)
- Stability of electrical parameters over time and temperature

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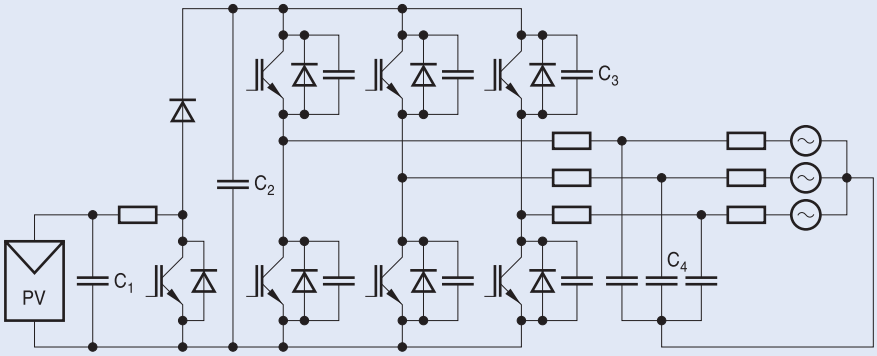
Schematic circuit



Characteristics

Series		Technical data	Features	Type
DC link capacitors				
MKP DC		C_R: 30 … 1500 µF V_R: 880 … 1320 V DC T_{op}: –55 … +70 °C Six different terminal types IEC1071 approved	High peak current capability Customized con□gurations Self-healing Aluminum can	B25620 B25621 B25622 B25623 B25624 B25625
MKP DC LSI		C_R: 50 … 280 µF V_R: 600 … 1200 V DC T_{op}: –55 … +70 °C Different terminal types IEC1071 approved	High peak current capability Customized con□gurations Self-healing Low self inductance Plastic can	B25630 B25631 B25632 B25633 B25634 B25635
Output filter capacitors				
MKP AC		C_R: 3 … 600 µF V_{RMS}: 250 … 600 V AC T_{op}: –40 … +70 °C Five different terminal types IEC1071, UL E106388 approved	High peak current capability Customized con□gurations Overpressure disconnector Self-healing Aluminum can	B32360 B32361 B32362 B32363 B32364

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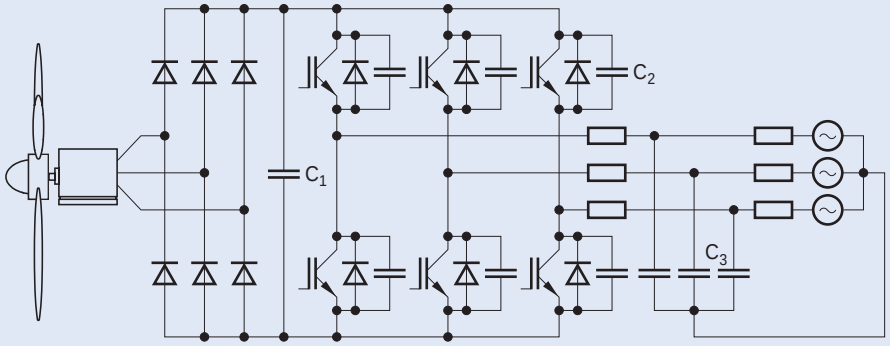
Power Capacitors for Wind Power Generation

Bene ts

- Overvoltage and overcurrent protection
- Long-term stability and reliability
- Approved materials and components acc. to UL
- Self-healing properties
- Lower equivalent serial resistance (ESR) and inductance (ESL)
- Stability of electrical parameters over time and temperature

Schematic circuit



Characteristics

Series		Technical data	Features	Type
DC link capacitors				
MKP DC		C_R: 30 … 1500 µF V_R: 880 … 1320 V DC T_{op}: –55 … +70 °C Six different terminal types IEC1071 approved	High peak current capability Customized con□gurations Self-healing Aluminum can	B25620 B25621 B25622 B25623 B25624 B25625
MKP DC LSI		C_R: 50 … 280 µF V_R: 600 … 1200 V DC T_{op}: –55 … +70 °C Different terminal types IEC1071 approved	High peak current capability Customized con□gurations Self-healing Low self inductance Plastic can	B25630 B25631 B25632 B25633 B25634 B25635
Output filter capacitors				
MKP AC		C_R: 3 … 600 µF V_{RMS}: 250 … 600 V AC T_{op}: –40 … +70 °C Five different terminal types IEC1071, UL E106388 approved	High peak current capability Customized con□gurations Overpressure disconnector Self-healing Aluminum can	B32360 B32361 B32362 B32363 B32364
MKP AC HP		C_R: 10 … 150 µF V_{RMS}: 550 … 1000 V AC T_{op}: –40 … +70 °C Different terminal types IEC1071 approved	High peak current capability Customized con□gurations Overpressure disconnector Self-healing Oil impregnation Aluminum can	B25360 B25361 B25362 B25363 B25364

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Please read *Important notes* on page 4.

Technical Data for MKP DC Capacitors

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Characteristics

V_R V DC	C_R µF	I_{max} A	$\hat{I}_{pk}$ A	$\hat{I}_S$ kA	R_S mΩ	L_{self} nH	D × H mm	Ordering code *
MKP DC series: B25620 … B25625								
880	160	40	640	2.6	2.2	≤80	75 × 70	B2562+B0167K881
	220	50	880	3.5	1.9	≤60	85 × 70	B2562+B0227K881
	260	45	1040	4.2	2.8	≤80	75 × 95	B2562+B0267K881
	350	50	1400	5.6	2.4	≤60	85 × 95	B2562+B0357K881
	400	45	1600	6.4	3.8	≤80	75 × 132	B2562+B0407K881
	440	65	1760	7.0	1.5	≤60	116 × 70	B2562+B0447K882
	480	55	1920	7.7	2.8	≤60	85 × 120	B2562+B0487K881
	550	50	2200	8.8	3.0	≤60	85 × 132	B2562+B0557K881
	700	70	2800	11.2	1.7	≤60	116 × 95	B2562+B0707K882
	750	55	3000	12.0	3.7	≤60	85 × 173	B2562+B0757K881
	970	75	3880	15.5	1.9	≤60	116 × 120	B2562+B0977K882
	1100	75	4400	17.6	2.0	≤60	116 × 132	B2562+B0118K882
	1500	80	6000	24.0	2.4	≤60	116 × 173	B2562+B0158K882
1100	100	35	400	1.6	2.5	≤80	75 × 70	B2562+B1107K101
	140	45	560	2.2	2.1	≤60	85 × 70	B2562+B1147K101
	170	40	680	2.7	3.2	≤80	75 × 95	B2562+B1177K101
	230	40	920	3.7	4.1	≤80	75 × 120	B2562+B1237K101
	260	40	1040	4.2	4.4	≤80	75 × 132	B2562+B1267K101
	280	60	1120	4.5	1.6	≤60	116 × 70	B2562+B1287K102
	310	50	1240	5.0	3.2	≤60	85 × 120	B2562+B1317K101
	350	40	1400	5.6	5.6	≤80	75 × 173	B2562+B1357K101
	400	55	1600	6.4	2.4	≤60	85 × 132	B2562+B1407K101
	420	55	1680	6.7	2.2	≤60	85 × 135	B2562+B1427A101
	450	65	1800	7.2	1.9	≤60	116 × 95	B2562+B1457K102
	480	50	1920	7.7	4.3	≤60	85 × 173	B2562+B1487K101
	610	70	2440	9.8	2.2	≤60	116 × 120	B2562+B1617K102
	700	70	2800	11.2	2.3	≤60	116 × 132	B2562+B1707K102
	940	70	3760	15.0	1.6	≤60	116 × 173	B2562+B1947K102
	1100	80	4400	17.6	1.5	≤100	116 × 223	B2562+B1118K103
1320	70	35	280	1.1	2.8	≤80	75 × 70	B2562+B1706K321
	110	35	440	1.8	3.8	≤80	75 × 95	B2562+B1117K321
	160	40	640	2.6	4.6	≤80	75 × 120	B2562+B1167K321
	180	40	720	2.9	5.1	≤80	75 × 132	B2562+B1187K321
	220	45	880	3.5	3.6	≤60	85 × 120	B2562+B1227K321
	260	45	1040	4.2	3.9	≤60	85 × 132	B2562+B1267K321
	310	65	1240	5.0	2.0	≤60	116 × 95	B2562+B1317K322
	340	50	1360	5.4	4.9	≤60	85 × 173	B2562+B1347K321
	420	65	1680	6.7	2.4	≤60	116 × 120	B2562+B1427K322
	480	70	1920	7.7	2.6	≤60	116 × 132	B2562+B1487K322
	660	70	2640	10.5	3.1	≤60	116 × 173	B2562+B1667K322

* Replace the + by the code letter of terminal type:
0 = Female M6 1 = Male M6
2 = Female M8 3 = Male M8
4 = Female M10 5 = Male M10

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Technical Data for MKP DC LSI Capacitors

Characteristics

V_R V DC	C_R µF	I_{max} A	$\hat{I}_{pk}$ A	$\hat{I}_S$ kA	R_S mΩ	L_{self} nH	R_{th} °C/W	D × H mm	Ordering code *
MKP DC LSI series: B25630 ... B25635									
600	200	55	4.0	12.0	1.2	20	4.2	85 × 50	B2563+A0207K600
	280	65	3.7	11.1	1.2	30	5.5	85 × 65	B2563+A0287K600
700	150	55	3.4	10.2	1.2	20	4.2	85 × 50	B2563+A0157K700
	220	65	3.3	9.9	1.2	30	5.5	85 × 65	B2563+A0227K700
800	120	55	3.0	9.0	1.2	20	4.2	85 × 50	B2563+A0127K800
	180	65	3.0	9.0	1.2	30	5.5	85 × 65	B2563+A0187K800
900	100	55	2.8	8.4	1.3	20	4.2	85 × 50	B2563+A0107K900
	140	60	2.7	8.1	1.4	30	5.5	85 × 65	B2563+A0147K900
1000	75	50	2.4	7.2	1.4	20	4.2	85 × 50	B2563+A1756K000
	110	60	2.3	6.9	1.4	30	5.5	85 × 65	B2563+A1117K000
1100	70	50	2.1	6.3	1.5	20	4.2	85 × 50	B2563+A1706K100
	100	60	2.1	6.6	1.5	30	5.5	85 × 65	B2563+A1107K100
1200	50	50	2.0	6.0	1.6	20	4.2	85 × 50	B2563+A1506K200
	80	60	2.0	6.0	1.8	30	5.5	85 × 65	B2563+A1806K200

* Replace the + by the code letter of terminal type:
1 = Male M8 2 = Female M5

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Please read *Important notes* on page 4.

Technical Data for MKP AC Capacitors

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Characteristics

V AC/ V_{RMS}	C_R µF	I_{max} A	$\hat{I}_{pk}$ A	$\hat{I}_S$ kA	R_S mΩ	L_{self} nH	D × H mm	Ordering code
MKP AC B32360 series with Fast-on terminals								
350/250	10	10	300	0.9	6.9	170	40.0 × 68	B32360A2106J050
	15	12	450	1.3	5.6	170	40.0 × 68	B32360A2156J050
	20	10	500	1.5	5.4	170	40.0 × 68	B32360A2206J050
	25	12	600	1.9	6.8	170	40.0 × 80	B32360B2256J050
	30	15	750	2.2	4.6	170	53.0 × 70	B32360A2306J050
	40	16	1000	3.0	4.2	170	53.0 × 70	B32360A2406J050
	50	16	900	2.8	5.1	190	53.0 × 82	B32360A2506J050
	60	16	1100	3.3	4.8	190	53.0 × 82	B32360A2606J050
	70	16	1300	3.8	4.6	190	63.5 × 82	B32360A2706J050
	80	16	1500	4.4	4.4	190	63.5 × 82	B32360A2806J050
	100	16	1200	3.6	6.0	210	63.5 × 107	B32360A2107J050
	150	16	1300	4.0	7.0	250	63.5 × 132	B32360B2157J050
MKP AC B32361 series with M6 screw terminals								
350/250	50	25	1250	3.8	3.7	195	63.5 × 70	B32361A2506J050
	60	25	1500	4.5	3.6	195	63.5 × 70	B32361A2606J050
	70	25	1300	3.8	4.2	220	63.5 × 82	B32361A2706J050
	80	25	1500	4.4	4.1	220	63.5 × 82	B32361A2806J050
	100	25	1200	3.6	5.5	225	63.5 × 107	B32361A2107J050
	150	25	1300	4.0	6.3	265	63.5 × 132	B32361A2157J050
	200	25	1600	4.8	6.3	275	63.5 × 142	B32361B2207J050
MKP AC B32362 series with M10 screw terminals								
350/250	150	35	1800	5.4	2.5	185	75.0 × 117	B32362A2157J050
	200	50	2400	7.2	2.1	185	85.0 × 117	B32362B2207J050
	250	40	2000	6.0	3.0	210	75.0 × 152	B32362A2257J050
	300	50	3600	10.8	1.7	200	75.0 × 197	B32362A2307J050
	400	50	4800	14.4	1.5	200	85.0 × 197	B32362A2407J050
	500	50	4400	13.3	1.9	230	85.0 × 247	B32362B2507J050
	600	50	5300	16.0	1.8	230	85.0 × 247	B32362B2607J050
MKP AC B32364 series with M8 screw terminals								
350/250	60	25	1520	4.6	2.3	170	63.5 × 70	B32364A2606J050
	80	25	1480	4.4	2.7	180	63.5 × 82	B32364A2806J050
	100	25	1200	3.6	3.8	200	63.5 × 107	B32364A2107J050
	150	35	1800	5.4	3.1	210	75.0 × 117	B32364A2157J050
	200	35	1777	5.3	3.7	230	75.0 × 142	B32364B2207J050
	250	35	2000	6.0	3.8	240	75.0 × 152	B32364A2257J050
	300	35	3600	10.8	2.5	240	75.0 × 197	B32364A2307J050

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Technical Data for MKP AC Capacitors

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Characteristics

V AC/ V_{RMS}	C_R µF	I_{max} A	$\hat{I}_{pk}$ A	$\hat{I}_S$ kA	R_S mΩ	L_{self} nH	D × H mm	Ordering code
MKP AC B32360 series with Fast-on terminals								
460/330	10	12	300	0.9	6.9	170	53.0 × 70	B32360A3106J030
	15	12	450	1.3	5.6	170	53.0 × 70	B32360A3156J030
	20	13	600	1.8	5.0	170	53.0 × 70	B32360A3206J030
	25	15	750	2.3	4.6	170	53.0 × 70	B32360A3256J030
	30	15	650	2.0	5.7	190	53.0 × 82	B32360A3306J030
	40	15	850	2.7	5.1	190	53.0 × 82	B32360B3406J030
	50	15	700	2.2	7.3	210	53.0 × 107	B32360A3506J030
	60	16	850	2.6	6.8	210	53.0 × 107	B32360B3606J030
	70	16	1000	3.0	6.4	210	63.5 × 107	B32360A3706J030
	80	16	1150	3.5	6.1	210	63.5 × 107	B32360A3806J030
	100	16	1050	3.2	7.6	250	63.5 × 132	B32360B3107J030
MKP AC B32361series with M6 screw terminals								
460/330	50	18	920	2.7	4.4	220	63.5 × 82	B32361B3506J030
	60	18	720	2.1	6.2	225	63.5 × 107	B32361A3606J030
	70	20	840	2.5	5.8	225	63.5 × 107	B32361A3706J030
	80	25	960	2.8	5.5	225	63.5 × 107	B32361A3806J030
	100	25	880	2.6	6.9	265	63.5 × 132	B32361B3107J030
MKP AC B32362 series with M10 screw terminals								
460/330	100	30	1450	4.3	2.8	185	75.0 × 117	B32362A3107J030
	150	30	1450	4.3	3.7	210	75.0 × 152	B32362A3157J030
	200	40	1900	5.8	3.1	210	85.0 × 152	B32362B3207J030
	250	50	3600	10.8	1.7	200	85.0 × 197	B32362A3257J030
	300	50	4300	12.9	1.6	200	85.0 × 197	B32362A3307J030
	400	50	3850	11.6	2.1	240	85.0 × 267	B32362A3407J030
MKP AC B32364 series with M8 screw terminals								
460/330	50	25	1110	3.3	3.0	180	63.5 × 82	B32364A3506J030
	80	25	1150	3.5	3.9	200	63.5 × 107	B32364A3806J030
	100	30	1440	4.3	3.4	210	75.0 × 117	B32364B3107J030
	150	30	1450	4.3	4.5	240	75.0 × 152	B32364A3157J030
	200	35	2880	8.6	2.6	240	75.0 × 197	B32364A3207J030

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Please read *Important notes* on page 4.

Technical Data for MKP AC Capacitors

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Characteristics

V AC/ V_{RMS}	C_R µF	I_{max} A	$\hat{I}_{pk}$ A	$\hat{I}_S$ kA	R_S mΩ	L_{self} nH	D × H mm	Ordering code
MKP AC B32360 series with Fast-on terminals								
680/480	3	6	120	0.4	12.9	170	40.0 × 68	B32360A4305J080
	5	8	200	0.6	8.9	170	40.0 × 68	B32360A4505J080
	10	10	400	1.2	6.0	170	53.0 × 70	B32360A4106J080
	15	15	600	1.8	5.0	170	53.0 × 70	B32360A4156J080
	20	15	600	1.7	6.0	190	53.0 × 82	B32360A4206J080
	25	15	500	1.4	9.0	210	53.0 × 107	B32360A4256J080
	30	15	600	1.7	8.2	210	53.0 × 107	B32360A4306J080
	40	16	750	2.3	7.1	210	63.5 × 107	B32360A4406J080
	50	16	950	2.9	6.5	210	63.5 × 107	B32360A4506J080
	60	16	850	2.6	8.4	250	63.5 × 132	B32360A4606J080
	70	16	900	2.7	8.8	265	63.5 × 142	B32360A4706J080
MKP AC B32361 series with M6 screw terminals								
680/480	20	20	800	2.4	4.3	195	63.5 × 70	B32361A4206J080
	25	25	750	2.2	5.2	220	63.5 × 82	B32361A4256J080
	30	25	800	2.6	4.8	220	63.5 × 82	B32361A4306J080
	40	20	750	2.3	6.6	225	63.5 × 107	B32361A4406J080
	50	25	950	2.9	6.0	225	63.5 × 107	B32361A4506J080
	60	25	850	2.6	7.7	265	63.5 × 132	B32361A4606J080
	70	25	900	2.7	8.0	275	63.5 × 142	B32361A4706J080
MKP AC B32362 series with M10 screw terminals								
680/480	60	30	1150	3.4	3.2	185	75.0 × 117	B32362A4606J080
	70	50	2050	6.2	1.7	180	75.0 × 147	B32362A4706J080
	80	50	1350	7.1	1.6	180	75.0 × 147	B32362A4806J080
	100	50	1900	5.7	2.3	200	75.0 × 197	B32362A4107J080
	150	50	2850	8.6	1.9	200	85.0 × 197	B32362A4157J080
	200	50	2850	8.5	2.3	230	85.0 × 247	B32362A4207J080
	250	50	3200	9.6	2.3	240	85.0 × 267	B32362A4257J080
MKP AC B32364 series with M8 screw terminals								
680/480	30	20	890	2.7	3.4	180	63.5 × 82	B32364A4306J080
	50	20	960	2.9	4.3	200	63.5 × 107	B32364A4506J080
	60	25	1150	3.5	3.9	210	75.0 × 117	B32364A4606J080
	80	35	2368	7.1	2.2	210	75.0 × 147	B32364A4806J080
	100	35	1921	5.8	3.1	240	75.0 × 197	B32364B4107J080

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Technical Data for MKP AC HP Capacitors

Characteristics

V_{RMS}	C_R µF	I_{max} A	$\hat{I}_{pk}$ A	$\hat{I}_S$ kA	D × H mm	Ordering code *
MKP AC HP series: B25360 … B25364						
550	33	45	1.9	5.6	75 × 115	B25360A5336J050
	47	50	1.9	5.7	75 × 140	B25360A5476J050
	68	50	3.8	11.6	75 × 195	B25360A5686J050
	95	60	3.8	11.5	75 × 245	B25360A5956J050
	130	60	5.2	15.7	85 × 245	B25360A5137J050
	150	60	5.2	15.8	85 × 270	B25360A5157J050
640	22	40	1.5	4.5	75 × 115	B25360A6226J040
	33	45	1.6	4.8	75 × 140	B25360A6336J040
	50	50	3.2	9.6	75 × 195	B25360A6506J040
	68	60	3.3	9.8	75 × 245	B25360A6686J040
	90	60	4.3	13.1	85 × 245	B25360A6906J040
	100	60	4.2	12.6	85 × 270	B25360A6107J040
780	15	35	1.2	3.6	75 × 115	B25360A7156J080
	22	40	1.2	3.7	75 × 140	B25360A7226J080
	33	50	2.6	7.9	75 × 195	B25360A7336J080
	47	55	2.6	7.9	75 × 245	B25360A7476J080
	75	60	3.7	11.1	85 × 270	B25360A7756J080
1000	10	30	1.2	3.6	75 × 115	B25360A1106J100
	20	40	1.5	5.0	75 × 140	B25360A1206J100
	33	50	2.9	8.7	75 × 245	B25360A1336J100
	47	60	4.1	12.4	85 × 245	B25360A1476J100
	55	60	4.3	12.8	85 × 270	B25360A1556J100

* Terminal type: Male M10

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Please read *Important notes* on page 4.

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