

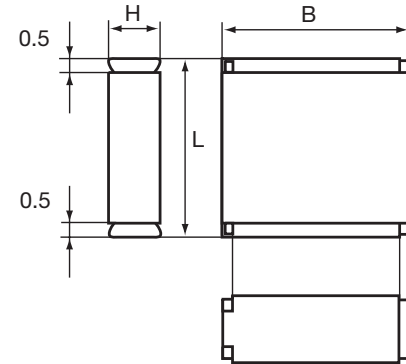
- Metallized polyphenylene sulphide (PPS) SMD
- According to IEC 60384-20

TYPICAL APPLICATIONS

Timing, filtering. Memory capacitor. High stability and accuracy. High temperature use.

CONSTRUCTION

Polyphenylene sulphide (PPS) film capacitor for surface mounting. Encapsulation in self-extinguishing material meeting the requirements of UL 94V-0.



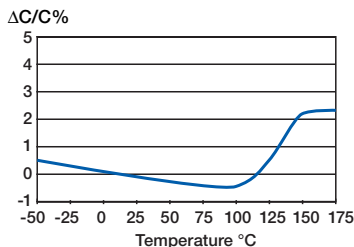
Components may be vertically mounted for decreased footprint. See page 20.

TECHNICAL DATA

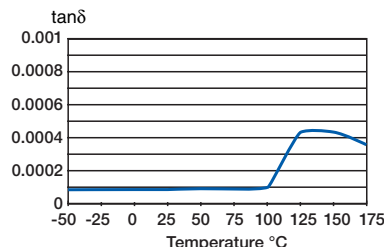
Rated voltage U_R, VDC	50	100	250	400	
Rated voltage U_R, VAC	30	63	160	200	
Capacitance range, nF	1 - 3300	1 - 1500	1 - 470	1 - 220	
Capacitance tolerance	±5%, ±2.5%, ±2% other tolerances on request.				
Category temperature range	-55°C to +125°C				
Rated temperature	+100°C				
Voltage derating	The rated voltage should be decreased with 1.5%/°C from +125°C to 175°C. No derating from +100°C to +125°C.				
Climatic category	55/125/56				
Voltage proof	1.6 x U_R , 60s				
Insulation resistance	Minimum value between terminals Measured at +20°C according to IEC 60384-20.				
	$U_R \leq 100$ V	$U_R > 100$ V	$C \leq 0.33\mu\text{F}$	$C > 0.33\mu\text{F}$	
	15 000 MΩ	30 000 MΩ	5 000 s	10 000 s	
Dissipation factor	Max values at +23°C				
			$C \leq 100\text{nF}$	$100\text{nF} < C \leq 1\mu\text{F}$	$C > 1\mu\text{F}$
	1 kHz	0.15 %	0.15 %	0.15 %	0.15 %
	10 kHz	0.25 %	0.25 %	0.30 %	
	100 kHz	0.50 %	0.60 %		

Pulse rise time

The capacitors can withstand an unlimited number of pulses with a dU/dt according to article table. For voltages (U) lower than the rated voltage (U_R), the specified dU/dt can be multiplied by U_R/U .



Typical capacitance vs temperature at 1 kHz

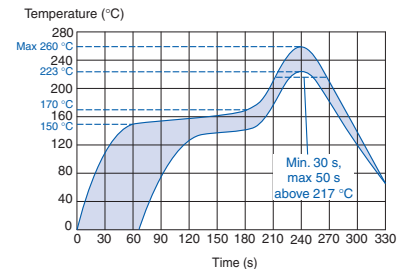


Typical dissipation factor vs temperature at 1 kHz

RECOMMENDED SOLDERING CONDITIONS

Reflow soldering temperature measured on the top body surface of the component

Preheating temperature should be less than 170°C. The time above 217°C should be less than 50 s. The peak temperature must not exceed 260°C.



MARKING

- Rated capacitance
- Capacitance tolerance code
- Rated voltage code
- Capacitor type S for SMC
- Manufacturing date code according to IEC 60062 (year, month)

See also page 18.

ORDERING INFORMATION

See article table and page 10 for options and article code construction.

ARTICLE TABLE

Capacitance μF	Size code	Dimensions in mm ± 0.2		Max dU/dt $\text{V}/\mu\text{s}$	Article code	Capacitance μF	Size code	Dimensions in mm ± 0.2		Max dU/dt $\text{V}/\mu\text{s}$	Article code
		B	H					B	H		
50 VDC/30 VAC						50 VDC/30 VAC					
CHIP LENGTH 5.7 MM CODE 2220						CHIP LENGTH 10.2 MM CODE 4036					
0.0010	J31	5.0	2.5	20	SMC5.7 102J50J31 TR12	0.010	A31	9.1	5.5	4	SMC10.2 103J50A31 TR16
0.0012	J31	5.0	2.5	20	SMC5.7 122J50J31 TR12	0.012	A31	9.1	5.5	4	SMC10.2 123J50A31 TR16
0.0015	J31	5.0	2.5	20	SMC5.7 152J50J31 TR12	0.015	A31	9.1	5.5	4	SMC10.2 153J50A31 TR16
0.0018	J31	5.0	2.5	20	SMC5.7 182J50J31 TR12	0.018	A31	9.1	5.5	4	SMC10.2 183J50A31 TR16
0.0022	J31	5.0	2.5	20	SMC5.7 222J50J31 TR12	0.022	A31	9.1	5.5	4	SMC10.2 223J50A31 TR16
0.0027	J31	5.0	2.5	20	SMC5.7 272J50J31 TR12	0.027	A31	9.1	5.5	4	SMC10.2 273J50A31 TR16
0.0033	J31	5.0	2.5	20	SMC5.7 332J50J31 TR12	0.033	A31	9.1	5.5	4	SMC10.2 333J50A31 TR16
0.0039	J31	5.0	2.5	20	SMC5.7 392J50J31 TR12	0.039	A31	9.1	5.5	4	SMC10.2 393J50A31 TR16
0.0047	J31	5.0	2.5	20	SMC5.7 472J50J31 TR12	0.047	A31	9.1	5.5	4	SMC10.2 473J50A31 TR16
0.0056	J31	5.0	2.5	20	SMC5.7 562J50J31 TR12	0.056	A31	9.1	5.5	4	SMC10.2 563J50A31 TR16
0.0068	J31	5.0	2.5	20	SMC5.7 682J50J31 TR12	0.068	A31	9.1	5.5	4	SMC10.2 683J50A31 TR16
0.0082	J31	5.0	2.5	20	SMC5.7 822J50J31 TR12	0.082	A31	9.1	5.5	4	SMC10.2 823J50A31 TR16
0.010	J31	5.0	2.5	20	SMC5.7 103J50J31 TR12	0.10	A31	9.1	5.5	4	SMC10.2 104J50A31 TR16
0.012	J31	5.0	2.5	20	SMC5.7 123J50J31 TR12	0.12	A31	9.1	5.5	4	SMC10.2 124J50A31 TR16
0.015	J31	5.0	2.5	15	SMC5.7 153J50J31 TR12	0.15	A31	9.1	5.5	4	SMC10.2 154J50A31 TR16
0.018	J31	5.0	2.5	15	SMC5.7 183J50J31 TR12	0.18	A31	9.1	5.5	4	SMC10.2 184J50A31 TR16
0.022	J31	5.0	2.5	15	SMC5.7 223J50J31 TR12	0.22	A31	9.1	5.5	4	SMC10.2 224J50A31 TR16
0.027	J31	5.0	2.5	15	SMC5.7 273J50J31 TR12	0.27	A31	9.1	5.5	4	SMC10.2 274J50A31 TR16
0.033	J31	5.0	2.5	15	SMC5.7 333J50J31 TR12	0.33	A31	9.1	5.5	4	SMC10.2 334J50A31 TR16
0.039	J33	5.0	3.0	6	SMC5.7 393J50J33 TR12	0.39	A31	9.1	5.5	4	SMC10.2 394J50A31 TR16
0.047	J33	5.0	3.0	6	SMC5.7 473J50J33 TR12	0.47	A31	9.1	5.5	4	SMC10.2 474J50A31 TR16
0.056	J35	5.0	4.0	6	SMC5.7 563J50J35 TR12	0.56	A31	9.1	5.5	4	SMC10.2 564J50A31 TR16
0.068	J35	5.0	4.0	6	SMC5.7 683J50J35 TR12	0.68	A31	9.1	5.5	4	SMC10.2 684J50A31 TR16
0.082	J35	5.0	4.0	6	SMC5.7 823J50J35 TR12	0.82	A31	9.1	5.5	4	SMC10.2 824J50A31 TR16
0.10	J35	5.0	4.0	6	SMC5.7 104J50J35 TR12						
CHIP LENGTH 7.3 MM CODE 2824						CHIP LENGTH 12.7 MM CODE 5045					
0.0010	K31	6.0	2.5	20	SMC7.3 102J50K31 TR12	1.0	B31	11.5	6.5	3	SMC12.7 105J50B31 TR24
0.0012	K31	6.0	2.5	20	SMC7.3 122J50K31 TR12	1.2	B31	11.5	6.5	3	SMC12.7 125J50B31 TR24
0.0015	K31	6.0	2.5	20	SMC7.3 152J50K31 TR12	1.5	B31	11.5	6.5	3	SMC12.7 155J50B31 TR24
0.0018	K31	6.0	2.5	20	SMC7.3 182J50K31 TR12						
0.0022	K31	6.0	2.5	20	SMC7.3 222J50K31 TR12	CHIP LENGTH 16.5 MM CODE 6560					
0.0027	K31	6.0	2.5	20	SMC7.3 272J50K31 TR12	1.8	C31	15.0	7.0	2	SMC16.5 185J50C31 TR24
0.0033	K31	6.0	2.5	20	SMC7.3 332J50K31 TR12	2.2	C31	15.0	7.0	2	SMC16.5 225J50C31 TR24
0.0039	K31	6.0	2.5	20	SMC7.3 392J50K31 TR12	2.7	C31	15.0	7.0	2	SMC16.5 275J50C31 TR24
0.0047	K31	6.0	2.5	20	SMC7.3 472J50K31 TR12	3.3	C31	15.0	7.0	2	SMC16.5 335J50C31 TR24
0.0056	K31	6.0	2.5	20	SMC7.3 562J50K31 TR12						
0.0068	K31	6.0	2.5	20	SMC7.3 682J50K31 TR12	100 VDC/63 VAC					
0.0082	K31	6.0	2.5	20	SMC7.3 822J50K31 TR12	CHIP LENGTH 5.7 MM CODE 2220					
0.010	K31	6.0	2.5	20	SMC7.3 103J50K31 TR12	0.0010	J31	5.0	2.5	20	SMC5.7 102J100J31 TR12
0.012	K31	6.0	2.5	20	SMC7.3 123J50K31 TR12	0.0012	J31	5.0	2.5	20	SMC5.7 122J100J31 TR12
0.015	K31	6.0	2.5	20	SMC7.3 153J50K31 TR12	0.0015	J31	5.0	2.5	20	SMC5.7 152J100J31 TR12
0.018	K31	6.0	2.5	20	SMC7.3 183J50K31 TR12	0.0018	J31	5.0	2.5	20	SMC5.7 182J100J31 TR12
0.022	K31	6.0	2.5	20	SMC7.3 223J50K31 TR12	0.0022	J31	5.0	2.5	20	SMC5.7 222J100J31 TR12
0.027	K31	6.0	2.5	20	SMC7.3 273J50K31 TR12	0.0027	J31	5.0	2.5	20	SMC5.7 272J100J31 TR12
0.033	K31	6.0	2.5	15	SMC7.3 333J50K31 TR12	0.0033	J31	5.0	2.5	20	SMC5.7 332J100J31 TR12
0.039	K31	6.0	2.5	15	SMC7.3 393J50K31 TR12	0.0039	J31	5.0	2.5	20	SMC5.7 392J100J31 TR12
0.047	K31	6.0	2.5	15	SMC7.3 473J50K31 TR12	0.0047	J31	5.0	2.5	20	SMC5.7 472J100J31 TR12
0.056	K31	6.0	2.5	15	SMC7.3 563J50K31 TR12	0.0056	J31	5.0	2.5	20	SMC5.7 562J100J31 TR12
0.068	K31	6.0	2.5	15	SMC7.3 683J50K31 TR12	0.0068	J31	5.0	2.5	20	SMC5.7 682J100J31 TR12
0.082	K33	6.0	3.0	6	SMC7.3 823J50K33 TR12	0.0082	J31	5.0	2.5	20	SMC5.7 822J100J31 TR12
0.10	K33	6.0	3.0	6	SMC7.3 104J50K33 TR12	0.010	J31	5.0	2.5	20	SMC5.7 103J100J31 TR12
0.12	K35	6.0	3.5	6	SMC7.3 124J50K35 TR12	0.012	J31	5.0	2.5	20	SMC5.7 123J100J31 TR12
0.15	K35	6.0	3.5	6	SMC7.3 154J50K35 TR12	0.015	J31	5.0	2.5	15	SMC5.7 153J100J31 TR12
0.18	K35	6.0	3.5	6	SMC7.3 184J50K35 TR12	0.018	J33	5.0	3.0	15	SMC5.7 183J100J33 TR12
0.22	K37	6.0	4.5	6	SMC7.3 224J50K37 TR12	0.022	J33	5.0	3.0	15	SMC5.7 223J100J33 TR12
						0.027	J35	5.0	4.0	15	SMC5.7 273J100J35 TR12
						0.033	J35	5.0	4.0	15	SMC5.7 333J100J35 TR12

ARTICLE TABLE

Capacitance μF	Size code	Dimensions in mm ± 0.2		Max dU/dt V/ μs	Article code	Capacitance μF	Size code	Dimensions in mm ± 0.2		Max dU/dt V/ μs	Article code
		B	H					B	H		
100 VDC/63 VAC						250 VDC/160 VAC					
CHIP LENGTH 7.3 MM CODE 2824						CHIP LENGTH 5.7 MM CODE 2220					
0.0010	K31	6.0	2.5	20	SMC7.3 102J100K31 TR12	0.0010	J31	5.0	2.5	20	SMC5.7 102J250J31 TR12
0.0012	K31	6.0	2.5	20	SMC7.3 122J100K31 TR12	0.0012	J31	5.0	2.5	20	SMC5.7 122J250J31 TR12
0.0015	K31	6.0	2.5	20	SMC7.3 152J100K31 TR12	0.0015	J31	5.0	2.5	20	SMC5.7 152J250J31 TR12
0.0018	K31	6.0	2.5	20	SMC7.3 182J100K31 TR12	0.0018	J31	5.0	2.5	20	SMC5.7 182J250J31 TR12
0.0022	K31	6.0	2.5	20	SMC7.3 222J100K31 TR12	0.0022	J31	5.0	2.5	20	SMC5.7 222J250J31 TR12
0.0027	K31	6.0	2.5	20	SMC7.3 272J100K31 TR12	0.0027	J31	5.0	2.5	20	SMC5.7 272J250J31 TR12
0.0033	K31	6.0	2.5	20	SMC7.3 332J100K31 TR12	0.0033	J31	5.0	2.5	20	SMC5.7 332J250J31 TR12
0.0039	K31	6.0	2.5	20	SMC7.3 392J100K31 TR12	0.0039	J31	5.0	2.5	20	SMC5.7 392J250J31 TR12
0.0047	K31	6.0	2.5	20	SMC7.3 472J100K31 TR12	0.0047	J31	5.0	2.5	20	SMC5.7 472J250J31 TR12
0.0056	K31	6.0	2.5	20	SMC7.3 562J100K31 TR12	0.0056	J33	5.0	3.0	20	SMC5.7 562J250J33 TR12
0.0068	K31	6.0	2.5	20	SMC7.3 682J100K31 TR12	0.0068	J33	5.0	3.0	20	SMC5.7 682J250J33 TR12
0.0082	K31	6.0	2.5	20	SMC7.3 822J100K31 TR12	0.0082	J35	5.0	4.0	20	SMC5.7 822J250J35 TR12
0.010	K31	6.0	2.5	20	SMC7.3 103J100K31 TR12	0.010	J35	5.0	4.0	20	SMC5.7 103J250J35 TR12
0.012	K31	6.0	2.5	20	SMC7.3 123J100K31 TR12						
0.015	K31	6.0	2.5	20	SMC7.3 153J100K31 TR12	CHIP LENGTH 7.3 MM CODE 2824					
0.018	K31	6.0	2.5	20	SMC7.3 183J100K31 TR12	0.0010	K31	6.0	2.5	20	SMC7.3 102J250K31 TR12
0.022	K31	6.0	2.5	20	SMC7.3 223J100K31 TR12	0.0012	K31	6.0	2.5	20	SMC7.3 122J250K31 TR12
0.027	K33	6.0	3.0	15	SMC7.3 273J100K33 TR12	0.0015	K31	6.0	2.5	20	SMC7.3 152J250K31 TR12
0.033	K33	6.0	3.0	15	SMC7.3 333J100K33 TR12	0.0018	K31	6.0	2.5	20	SMC7.3 182J250K31 TR12
0.039	K35	6.0	3.5	15	SMC7.3 393J100K35 TR12	0.0022	K31	6.0	2.5	20	SMC7.3 222J250K31 TR12
0.047	K35	6.0	3.5	15	SMC7.3 473J100K35 TR12	0.0027	K31	6.0	2.5	20	SMC7.3 272J250K31 TR12
0.056	K37	6.0	4.5	15	SMC7.3 563J100K37 TR12	0.0033	K31	6.0	2.5	20	SMC7.3 332J250K31 TR12
0.068	K37	6.0	4.5	15	SMC7.3 683J100K37 TR12	0.0039	K31	6.0	2.5	20	SMC7.3 392J250K31 TR12
CHIP LENGTH 10.2 MM CODE 4036						0.0047	K31	6.0	2.5	20	SMC7.3 472J250K31 TR12
0.010	A31	9.1	5.5	6	SMC10.2 103J100A31 TR16	0.0056	K31	6.0	2.5	20	SMC7.3 562J250K31 TR12
0.012	A31	9.1	5.5	6	SMC10.2 123J100A31 TR16	0.0068	K31	6.0	2.5	20	SMC7.3 682J250K31 TR12
0.015	A31	9.1	5.5	6	SMC10.2 153J100A31 TR16	0.0082	K31	6.0	2.5	20	SMC7.3 822J250K31 TR12
0.018	A31	9.1	5.5	6	SMC10.2 183J100A31 TR16	0.010	K33	6.0	3.0	20	SMC7.3 103J250K33 TR12
0.022	A31	9.1	5.5	6	SMC10.2 223J100A31 TR16	0.012	K33	6.0	3.0	20	SMC7.3 123J250K33 TR12
0.027	A31	9.1	5.5	6	SMC10.2 273J100A31 TR16	0.015	K33	6.0	3.0	20	SMC7.3 153J250K33 TR12
0.033	A31	9.1	5.5	6	SMC10.2 333J100A31 TR16	0.018	K35	6.0	3.5	20	SMC7.3 183J250K35 TR12
0.039	A31	9.1	5.5	6	SMC10.2 393J100A31 TR16	0.022	K35	6.0	3.5	20	SMC7.3 223J250K35 TR12
0.047	A31	9.1	5.5	6	SMC10.2 473J100A31 TR16	CHIP LENGTH 10.2 MM CODE 4036					
0.056	A31	9.1	5.5	6	SMC10.2 563J100A31 TR16	0.010	A31	9.1	5.5	10	SMC10.2 103J250A31 TR16
0.068	A31	9.1	5.5	6	SMC10.2 683J100A31 TR16	0.012	A31	9.1	5.5	10	SMC10.2 123J250A31 TR16
0.082	A31	9.1	5.5	6	SMC10.2 823J100A31 TR16	0.015	A31	9.1	5.5	10	SMC10.2 153J250A31 TR16
0.10	A31	9.1	5.5	6	SMC10.2 104J100A31 TR16	0.018	A31	9.1	5.5	10	SMC10.2 183J250A31 TR16
0.12	A31	9.1	5.5	6	SMC10.2 124J100A31 TR16	0.022	A31	9.1	5.5	10	SMC10.2 223J250A31 TR16
0.15	A31	9.1	5.5	6	SMC10.2 154J100A31 TR16	0.027	A31	9.1	5.5	10	SMC10.2 273J250A31 TR16
0.18	A31	9.1	5.5	6	SMC10.2 184J100A31 TR16	0.033	A31	9.1	5.5	10	SMC10.2 333J250A31 TR16
0.22	A31	9.1	5.5	6	SMC10.2 224J100A31 TR16	0.039	A31	9.1	5.5	10	SMC10.2 393J250A31 TR16
0.27	A31	9.1	5.5	6	SMC10.2 274J100A31 TR16	0.047	A31	9.1	5.5	10	SMC10.2 473J250A31 TR16
CHIP LENGTH 12.7 MM CODE 5045						0.056	A31	9.1	5.5	10	SMC10.2 563J250A31 TR16
0.33	B31	11.5	6.5	5	SMC12.7 334J100B31 TR24	0.068	A31	9.1	5.5	10	SMC10.2 683J250A31 TR16
0.39	B31	11.5	6.5	5	SMC12.7 394J100B31 TR24	0.082	A31	9.1	5.5	10	SMC10.2 823J250A31 TR16
0.47	B31	11.5	6.5	5	SMC12.7 474J100B31 TR24	0.10	A31	9.1	5.5	10	SMC10.2 104J250A31 TR16
0.56	B31	11.5	6.5	5	SMC12.7 564J100B31 TR24	CHIP LENGTH 12.7 MM CODE 5045					
CHIP LENGTH 16.5 MM CODE 6560						0.12	B31	11.5	6.5	8	SMC12.7 124J250B31 TR24
0.68	C31	15.0	7.0	3	SMC16.5 684J100C31 TR24	0.15	B31	11.5	6.5	8	SMC12.7 154J250B31 TR24
0.82	C31	15.0	7.0	3	SMC16.5 824J100C31 TR24	0.18	B31	11.5	6.5	8	SMC12.7 184J250B31 TR24
1.0	C31	15.0	7.0	3	SMC16.5 105J100C31 TR24						
1.2	C31	15.0	7.0	3	SMC16.5 125J100C31 TR24						
1.5	C31	15.0	7.0	3	SMC16.5 155J100C31 TR24						

NOTE: These products are not yet suitable for lead free soldering. For actual status, please contact manufacturer.

ARTICLE TABLE

Capacitance μF	Size code	Dimensions in mm ± 0.2		Max dU/dt $\text{V}/\mu\text{s}$	Article code	Capacitance μF	Size code	Dimensions in mm ± 0.2		Max dU/dt $\text{V}/\mu\text{s}$	Article code
		B	H					B	H		
250 VDC/160 VAC						400 VDC/200 VAC					
CHIP LENGTH 16.5 MM CODE 6560						CHIP LENGTH 10.2 MM CODE 4036					
0.22	C31	15.0	7.0	5	SMC16.5 224J250C31 TR24	0.010	A31	9.1	5.5	15	SMC10.2 103J400A31 TR16
0.27	C31	15.0	7.0	5	SMC16.5 274J250C31 TR24	0.012	A31	9.1	5.5	15	SMC10.2 123J400A31 TR16
0.33	C31	15.0	7.0	5	SMC16.5 334J250C31 TR24	0.015	A31	9.1	5.5	15	SMC10.2 153J400A31 TR16
0.39	C31	15.0	7.0	5	SMC16.5 394J250C31 TR24	0.018	A31	9.1	5.5	15	SMC10.2 183J400A31 TR16
0.47	C31	15.0	7.0	5	SMC16.5 474J250C31 TR24	0.022	A31	9.1	5.5	15	SMC10.2 223J400A31 TR16
400 VDC/200 VAC						CHIP LENGTH 12.7 MM CODE 5045					
CHIP LENGTH 5.7 MM CODE 2220						CHIP LENGTH 16.5 MM CODE 6560					
0.0010	J31	5.0	2.5	40	SMC5.7 102J400J31 TR12	0.10	C31	15.0	7.0	8	SMC16.5 104J400C31 TR24
0.0012	J31	5.0	2.5	40	SMC5.7 122J400J31 TR12	0.12	C31	15.0	7.0	8	SMC16.5 124J400C31 TR24
0.0015	J31	5.0	2.5	40	SMC5.7 152J400J31 TR12	0.15	C31	15.0	7.0	8	SMC16.5 154J400C31 TR24
0.0018	J33	5.0	3.0	40	SMC5.7 182J400J33 TR12	0.18	C31	15.0	7.0	8	SMC16.5 184J400C31 TR24
0.0022	J33	5.0	3.0	40	SMC5.7 222J400J33 TR12	0.22	C31	15.0	7.0	8	SMC16.5 224J400C31 TR24
0.0027	J35	5.0	4.0	40	SMC5.7 272J400J35 TR12						
0.0033	J35	5.0	4.0	40	SMC5.7 332J400J35 TR12						
CHIP LENGTH 7.3 MM CODE 2824											
0.0010	K31	6.0	2.5	25	SMC7.3 102J400K31 TR12						
0.0012	K31	6.0	2.5	25	SMC7.3 122J400K31 TR12						
0.0015	K31	6.0	2.5	25	SMC7.3 152J400K31 TR12						
0.0018	K31	6.0	2.5	25	SMC7.3 182J400K31 TR12						
0.0022	K31	6.0	2.5	25	SMC7.3 222J400K31 TR12						
0.0027	K31	6.0	2.5	25	SMC7.3 272J400K31 TR12						
0.0033	K33	6.0	3.0	25	SMC7.3 332J400K33 TR12						
0.0039	K33	6.0	3.0	25	SMC7.3 392J400K33 TR12						
0.0047	K33	6.0	3.0	25	SMC7.3 472J400K33 TR12						
0.0056	K35	6.0	3.5	25	SMC7.3 562J400K35 TR12						
0.0068	K35	6.0	3.5	25	SMC7.3 682J400K35 TR12						
0.0082	K37	6.0	4.5	25	SMC7.3 822J400K37 TR12						
0.010	K37	6.0	4.5	25	SMC7.3 103J400K37 TR12						

NOTE: These products are not yet suitable for lead free soldering. For actual status, please contact manufacturer.