Reference: QOD-510

Product Change Notification
PCN-050318-ASG

Date:	ID Number (MMDDYY): 050318
Affected Products	**Product Series:** Standard Termination X7R dielectric Automotive grade, Flexible Termination System X7R dielectric Automotive and Commercial grade. **Part Types.** • X7R 1210 EIA Case Size 10µF 25V, 16V, 10V and 6.3V • X7R 1206 EIA Case Size 2.2µF 50V, 25V, 16V, 10V and 6.3V • X7R 1210 EIA Case Size 22µF 10V and 6.3V • X7R 0805 EIA Case Size 2.2µF 16V, 10V and 6.3V • X7R 0603 EIA Case Size 0.22µF 25V, 16V, 10V and 6.3V **Termination System/s and finishes:** Flexible Termination 100%Sn and Standard Termination 100%Sn **Product Grade/s**: • Automotive grade and Commercial grade (See Part Types affected section for details)
Product Series Ordering Information	**Standard & Flexible Termination** Ordering Information for both Standard and Flexible Termination is not changing with this PCN
Effective Date and Identification	Beginning November 5st, 2018 Date Code. 1845XXXXXX • Samples on these parts are available through your sales representative. • KEMET's notification process is based on JESD46D which allows customers 6 months prior to implementation to perform on-site qualifications since performance can vary for each application. • If KEMET does not receive a formal approval or rejection of the PCN after the 6 months PCN period KEMET will move forward with the change on listed parts.

C	1206	C	106	K	4	R	A	C
Ceramic	Case Size (L" x W")	Specification/Series	Capacitance Code (pF)	Capacitance Tolerance	Rated Voltage (VDC)	Dielectric	Failure Rate / Design	Termination Finish
	0603 0805 1206 1210	C=Standard Termination X=Flexible Termination	2 Sig. digits+ + Number of zeros	J = ±5% K = ±10% M = ±20%	9 = 6.3 8 = 10 4 = 16 3 = 25 5 = 50	R=X7R	A=N/A	C=100%Matte Sn

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Change Description

Change Classification. Major

- ☐ Form
- ☑ Fit
- ☑ Function

KEMET is optimizing the dielectric formulation and designs to meet the growing global demand of class II X7R ceramic capacitors.

Primary material set of the X7R dielectric will remain $BaTiO_3$ although minor modifications to dopants and powders have occurred which remain proprietary.

Part types affected by this change continue to meet or exceed Automotive Electronics Council AEC-Q200 qualification in addition to internal KEMET qualification standards (Qualification Packages upon request).

Standard Termination

Part Type	Length (mm)		Width (mm)		Thickness (mm)		pcs/reel (7"reel/13"reel)		DF (max %)		IR min (Mohm)	
	Current	Planned	Current	Planned	Current	Planned	Current	Planned	Current	Planned	Current	Planned
X7R 1210 10µF 25V	3.20 ± 0.30	3.20 ± 0.30	2.50 ± 0.22	2.50 ± 0.22	2.50 ± 0.30	2.50 ± 0.30	1,000/4,000	1,000/4,000	10.0	10.0	10	10
X7R 1210 10µF 16V	3.20 ± 0.30	3.20 ± 0.30	2.50 ± 0.22	2.50 ± 0.22	1.55 ± 0.15	2.50 ± 0.30	2,000/8,000	1,000/4,000	3.5	10.0	10	10
X7R 1210 10µF 10V	3.20 ± 0.30	3.20 ± 0.30	2.50 ± 0.22	2.50 ± 0.22	1.55 ± 0.15	2.50 ± 0.30	2,000/8,000	1,000/4,000	5.0	10.0	10	10
X7R 1210 10µF 6.3V	3.20 ± 0.30	3.20 ± 0.30	2.50 ± 0.22	2.50 ± 0.22	1.55 ± 0.15	2.50 ± 0.30	2,000/8,000	1,000/4,000	5.0	10.0	10	10
X7R 1206 2.2µF 50V	3.20 ± 0.20	3.20 ± 0.20	1.60 ± 0.20	1.60 ± 0.20	1.60 ± 0.20	1.60 ± 0.20	2,000/8,000	2,000/8,000	2.5	10.0	227.27	45.45
X7R 1206 2.2µF 25V	3.20 ± 0.20	3.20 ± 0.20	1.60 ± 0.20	1.60 ± 0.20	1.20 ± 0.15	1.60 ± 0.20	2,500/10,000	2,000/8,000	3.5	10.0	227.27	45.45
X7R 1206 2.2µF 16V	3.20 ± 0.20	3.20 ± 0.20	1.60 ± 0.20	1.60 ± 0.20	1.00 ± 0.10	1.60 ± 0.20	2,500/10,000	2,000/8,000	3.5	3.5	227.27	227.27
X7R 1206 2.2µF 10V	3.20 ± 0.20	3.20 ± 0.20	1.60 ± 0.20	1.60 ± 0.20	1.00 ± 0.10	1.60 ± 0.20	2,500/10,000	2,000/8,000	5.0	5.0	227.27	227.27
X7R 1206 2.2µF 6.3V	3.20 ± 0.20	3.20 ± 0.20	1.60 ± 0.20	1.60 ± 0.20	1.00 ± 0.10	1.60 ± 0.20	2,500/10,000	2,000/8,000	5.0	5.0	227.27	227.27
X7R 1210 22µF 10V	3.20 ± 0.30	3.30 ± 0.40	2.50 ± 0.22	2.60 ± 0.30	2.50 ± 0.30	2.50 ± 0.30	1,000/4,000	1,000/4,000	5.0	10.0	4.54	4.54
X7R 1210 22µF 6.3V	3.20 ± 0.30	3.30 ± 0.40	2.50 ± 0.22	2.60 ± 0.30	2.50 ± 0.30	2.50 ± 0.30	1,000/4,000	1,000/4,000	5.0	10.0	4.54	4.54
X7R 0805 2.2µF 16V	2.00 ± 0.20	2.00 ± 0.20	1.25 ± 0.20	1.25 ± 0.20	1.25 ± 0.15	1.25 ± 0.15	2,500/10,000	2,500/10,000	3.5	10.0	45.45	45.45
X7R 0805 2.2µF 10V	2.00 ± 0.20	2.00 ± 0.20	1.25 ± 0.20	1.25 ± 0.20	1.25 ± 0.15	1.25 ± 0.15	2,500/10,000	2,500/10,000	5.0	10.0	45.45	45.45
X7R 0805 2.2µF 6.3V	2.00 ± 0.20	2.00 ± 0.20	1.25 ± 0.20	1.25 ± 0.20	1.25 ± 0.15	1.25 ± 0.15	2,500/10,000	2,500/10,000	5.0	10.0	45.45	45.45
X7R 0603 0.22µF 25V	1.60 ± 0.15	1.60 ± 0.15	0.80 ± 0.15	0.80 ± 0.15	0.80 ± 0.07	0.80 ± 0.07	4,000/15,000	4,000/15,000	3.5	5.0	2273	2273
X7R 0603 0.22µF 16V	1.60 ± 0.15	1.60 ± 0.15	0.80 ± 0.15	0.80 ± 0.15	0.80 ± 0.07	0.80 ± 0.07	4,000/15,000	4,000/15,000	3.5	5.0	2273	2273
X7R 0603 0.22µF 10V	1.60 ± 0.15	1.60 ± 0.15	0.80 ± 0.15	0.80 ± 0.15	0.80 ± 0.07	0.80 ± 0.07	4,000/15,000	4,000/15,000	5.0	5.0	2273	2273
X7R 0603 0.22µF 6.3V	1.60 ± 0.15	1.60 ± 0.15	0.80 ± 0.15	0.80 ± 0.15	0.80 ± 0.07	0.80 ± 0.07	4,000/15,000	4,000/15,000	5.0	5.0	2273	2273

Flexible Termination

Part Type	Length (mm)		Width (mm)		Thickness (mm)		pcs/reel (7"reel/13"reel)		DF (max %)		IR min (Mohm)	
	Current	Planned	Current	Planned	Current	Planned	Current	Planned	Current	Planned	Current	Planned
X7R 1210 10µF 25V	3.30 ± 0.40	3.30 ± 0.40	2.60 ± 0.30	2.60 ± 0.30	2.50 ± 0.30	2.50 ± 0.30	1,000/4,000	1,000/4,000	3.5	10.0	10	10
X7R 1210 10µF 16V	3.30 ± 0.40	3.30 ± 0.40	2.60 ± 0.30	2.60 ± 0.30	1.55 ± 0.20	2.50 ± 0.30	2,000/8,000	1,000/4,000	3.5	10.0	10	10
X7R 1210 10µF 10V	3.30 ± 0.40	3.30 ± 0.40	2.60 ± 0.30	2.60 ± 0.30	1.55 ± 0.20	2.50 ± 0.30	2,000/8,000	1,000/4,000	5.0	10.0	10	10
X7R 1210 10µF 6.3V	3.30 ± 0.40	3.30 ± 0.40	2.60 ± 0.30	2.60 ± 0.30	1.55 ± 0.20	2.50 ± 0.30	2,000/8,000	1,000/4,000	5.0	10.0	10	10
X7R 1206 2.2µF 50V	3.30 ± 0.40	3.30 ± 0.40	1.60 ± 0.35	1.60 ± 0.35	1.60 ± 0.20	1.60 ± 0.20	2,000/8,000	2,000/8,000	2.5	10.0	227.27	45.45
X7R 1206 2.2µF 25V	3.30 ± 0.40	3.30 ± 0.40	1.60 ± 0.35	1.60 ± 0.35	1.20 ± 0.15	1.60 ± 0.20	2,500/10,000	2,000/8,000	3.5	10.0	227.27	45.45
X7R 1206 2.2µF 16V	3.30 ± 0.40	3.30 ± 0.40	1.60 ± 0.35	1.60 ± 0.35	1.00 ± 0.20	1.60 ± 0.35	2,500/10,000	2,000/8,000	3.5	3.5	227.27	227.27
X7R 1206 2.2µF 10V	3.30 ± 0.40	3.30 ± 0.40	1.60 ± 0.35	1.60 ± 0.35	1.00 ± 0.20	1.60 ± 0.35	2,500/10,000	2,000/8,000	5.0	5.0	227.27	227.27
X7R 1206 2.2µF 6.3V	3.30 ± 0.40	3.30 ± 0.40	1.60 ± 0.35	1.60 ± 0.35	1.00 ± 0.20	1.60 ± 0.35	2,500/10,000	2,000/8,000	5.0	5.0	227.27	227.27
X7R 1210 22µF 10V	3.30 ± 0.40	3.30 ± 0.40	2.60 ± 0.30	2.60 ± 0.30	2.50 ± 0.30	2.50 ± 0.30	1,000/4,000	1,000/4,000	5.0	10.0	4.54	4.54
X7R 1210 22µF 6.3V	3.30 ± 0.40	3.30 ± 0.40	2.60 ± 0.30	2.60 ± 0.30	2.50 ± 0.30	2.50 ± 0.30	1,000/4,000	1,000/4,000	5.0	10.0	4.54	4.54
X7R 0805 2.2µF 16V	2.00 ± 0.30	2.00 ± 0.30	1.25 ± 0.30	1.25 ± 0.30	1.25 ± 0.15	1.25 ± 0.15	2,500/10,000	2,500/10,000	3.5	10.0	45.45	45.45
X7R 0805 2.2µF 10V	2.00 ± 0.30	2.00 ± 0.30	1.25 ± 0.30	1.25 ± 0.30	1.25 ± 0.15	1.25 ± 0.15	2,500/10,000	2,500/10,000	5.0	10.0	45.45	45.45
X7R 0805 2.2µF 6.3V	2.00 ± 0.30	2.00 ± 0.30	1.25 ± 0.30	1.25 ± 0.30	1.25 ± 0.15	1.25 ± 0.15	2,500/10,000	2,500/10,000	5.0	10.0	45.45	45.45
X7R 0603 0.22µF 25V	1.60 ± 0.17	1.60 ± 0.17	0.80 ± 0.15	0.80 ± 0.15	0.80 ± 0.15	0.80 ± 0.15	4,000/15,000	4,000/15,000	3.5	5.0	2273	2273
X7R 0603 0.22µF 16V	1.60 ± 0.17	1.60 ± 0.17	0.80 ± 0.15	0.80 ± 0.15	0.80 ± 0.15	0.80 ± 0.15	4,000/15,000	4,000/15,000	3.5	5.0	2273	2273
X7R 0603 0.22µF 10V	1.60 ± 0.17	1.60 ± 0.17	0.80 ± 0.15	0.80 ± 0.15	0.80 ± 0.15	0.80 ± 0.15	4,000/15,000	4,000/15,000	5.0	5.0	2273	2273
X7R 0603 0.22µF 6.3V	1.60 ± 0.17	1.60 ± 0.17	0.80 ± 0.15	0.80 ± 0.15	0.80 ± 0.15	0.80 ± 0.15	4,000/15,000	4,000/15,000	5.0	5.0	2273	2273

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Reference: QOD-510

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Affected Part Numbers	Please refer to “Affected Part Types” Excel file for KEMET part numbers being affected by this change. Part numbers listed in the “Affected Part Types” excel file will begin to be supplied on November 5th, 2018. Only the part numbers listed will be impacted.

P.O. Box 5928, Greenville, South Carolina 29606 U.S.A.
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