

Product Discontinue Notification

K5V SMT range

PDN 11-01 – K5V

Document revision

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Summary

1. Purpose.....	4
2. Application	4
2.1 Overview	4
2.2 Product range affected.....	5
2.3 Date of application	5
2.4 Ordering, pricing and stock handling policy	5
3. Support	5
Annex 1: P/N affected by the change	6
Annex 2: Datasheet for current material (APEC 9389) and new material (Radel R-5800).....	7

1. Purpose

Following the discontinuation notice received from our supplier (Bayer) concerning the raw material used for K5V SMT Cap, C&K components has to discontinue current P/N's and created new P/N's with new resin to replace them. The choice of the new resin for new P/N is the closest option as possible in terms of properties to the current one. The only difference is that the color of the cap will change from clear to light gray. The pictures below show comparisons between current and new product.



Current Product(clear) New product(light Gray)

Besides the new gray colored cap, we can provide another color resin solution as yellow (material Radel R-5000), with same properties. P/N creating is in process. Samples and material Datasheet will also be available for customer request. Please find pictures below.



Coming new product with Yellow Resin

2. Application

2.1 Overview

- Discontinue current P/N for K5V SMT version. New P/N with new resin material are available as replacement.
- Datasheet for current material (APEC 9389) and new material (Radel R-5800) is in Annex 2.
- All characteristics, specification, manufacturing footprint of new P/N are same as current P/N.
- Color of actuator for new P/N is light Gray.

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2.2 *Product range affected*

- K5V SMT version

You will find in the annex 1 the complete P/N list and replacement P/N.

2.3 *Date of application*

- Parts changes are effective immediately.
- Qualification report will be provided upon request.
- Samples will be available upon request.

Important note: as discontinue is due to supplier material end of life, no delay on the application date can be offered.

2.4 *Ordering, pricing and stock handling policy*

- Ordering: Effective immediately, all orders must be placed using the new part numbers (see part conversion Annex 1 below)
- Pricing: No change.
- Stock handling: no obsolescence is applied on any P/N. No return or scrap for obsolescence will be accepted.

3. Support

For any question, please contact your sales representative.

Annex 1: P/N affected by the change

Discontinued P/N	Discontinued Description	New P/N Replacement	New Description Replacement
Y71243101FP	K5v 1 Cl 4 3 G	Y71443101FP	K5v 4 Cl 4 3 G
Y71243110FP	K5v 1 Wh 4 3 GP4	Y71443110FP	K5v 4 Wh 4 3 GP4
Y71243111FP	K5v 1 Wh 4 3 G	Y71443111FP	K5v 4 Wh 4 3 G
Y71243120FP	K5v 1 Yg 4 3 G P4	Y71443120FP	K5v 4 Yg 4 3 G P4
Y71243121FP	K5v 1 Yg 4 3 G	Y71443121FP	K5v 4 Yg 4 3 G
Y71243130FP	K5v 1 Bu 4 3 G P3	Y71443130FP	K5v 4 Bu 4 3 G P3
Y71243131FP	K5v 1 Bu 4 3 G	Y71443131FP	K5v 4 Bu 4 3 G
Y71243141FP	K5v 1 Gn 4 3 G	Y71443141FP	K5v 4 Gn 4 3 G
Y71243151FP	K5v 1 Rd 4 3 G	Y71443151FP	K5v 4 Rd 4 3 G
Y71243171FP	K5v 1 Rg 4 3 G	Y71443171FP	K5v 4 Rg 4 3 G
Y71243181FP	K5v 1 Ye 4 3 G	Y71443181FP	K5v 4 Ye 4 3 G
Y71243191FP	K5v 1 WS 4 3 G	Y71443191FP	K5v 4 WS 4 3 G
Y71243420FP	K5v 1 Yg 4 3 R P4	Y71443420FP	K5v 4 Yg 4 3 R P4
Y71243430FP	K5v 1 Bu 4 3 R P3	Y71443430FP	K5v 4 Bu 4 3 R P3
Y71343110FP	K5v 2wh43 GP4	Y71543110FP	K5v 5wh43 GP4
Y71343111FP	K5v 2wh43 G	Y71543111FP	K5v 5wh43 G
Y71343171FP	K5v 2 Rg 4 3 G	Y71543171FP	K5v 5 Rg 4 3 G
Y713431B1FP	K5v 2 WX 4 3 G	Y715431B1FP	K5v 5 WX 4 3 G
Y71343101FP	K5v 2 Cl 43 G	Y71543101FP	K5v 5 Cl 43 G
Y71343141FP	K5v 2 Gn 4 3 G	Y71543141FP	K5v 5 Gn 4 3 G

Annex 2: Datasheet for current material (APEC 9389) and new material (Radel R-5800)

Apec DP1-9389

Easy-flow grades / Base grade
ISO Shortname

Trial product, easy flowing, basic grade, softening temperature (VST/B 120)=220 °C

Property	Test Condition	Unit	Standard	Value
Rheological properties				
C Melt volume-flow rate	330 °C; 2.16 kg	cm ³ /(10 min)	ISO 1133	5
C Melt mass-flow rate	330 °C; 2.16 kg	g/(10 min)	ISO 1133	5
Mechanical properties (23 °C/50 % r. h.)				
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	2400
C Yield stress	50 mm/min	MPa	ISO 527-1,-2	78
C Yield strain	50 mm/min	%	ISO 527-1,-2	6,9
C Nominal strain at break	50 mm/min	%	ISO 527-1,-2	50
C Charpy impact strength	23 °C	kJ/m ²	ISO 179/1eU	N
C Charpy impact strength	-30 °C	kJ/m ²	ISO 179/1eU	N
Flexural modulus	2 mm/min	MPa	ISO 178	2400
Flexural strength	2 mm/min	MPa	ISO 178	110
Ball indentation hardness		N/mm ²	ISO 2039-1	130
Thermal properties				
C Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	188
C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	208
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	220
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10 ⁻⁶ /K	ISO 11359-1,-2	0.7
C Coefficient of linear thermal expansion, transverse	23 to 55 °C	10 ⁻⁶ /K	ISO 11359-1,-2	0.7
C Burning behavior UL 94	3.0 mm	Class	UL 94	HB
C Oxygen index	Method A	%	ISO 4589-2	25
Glow wire test (GWI)		°C	IEC 60695-2-12	850
Electrical properties (23 °C/50 % r. h.)				
C Relative permittivity	100 Hz	-	IEC 60250	3
C Relative permittivity	1 MHz	-	IEC 60250	3
C Dissipation factor	100 Hz	10 ⁻⁴	IEC 60250	7
C Dissipation factor	1 MHz	10 ⁻⁴	IEC 60250	80
C Volume resistivity		Ohm·m	IEC 60093	1E14
C Surface resistivity		Ohm	IEC 60093	1E16
C Electrical strength	1 mm	kV/mm	IEC 60243-1	35
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	800
C Comparative tracking index CTI M	Solution B	Rating	IEC 60112	<100
Electrolytic corrosion		Rating	IEC 60426	A1
Other properties (23 °C)				
C Water absorption (Saturation value)	Water at 23 °C	%	ISO 62	0.3
C Water absorption (Equilibrium value)	23 °C; 50 % RH	%	ISO 62	0.12
C Density		kg/m ³	ISO 1183	1120
Material specific properties				
Refractive index	Procedure A	-	ISO 489	1.56
Luminous transmittance (clear transparent materials)	1 mm	%	ISO 13468-2	90



Apec DP1-9389

Property	Test Condition	Unit	Standard	Value
Processing conditions for test specimens				
C Injection molding-Melt temperature		°C	ISO 294	330
C Injection molding-Mold temperature		°C	ISO 294	100
C Injection molding-Injection velocity		mm/s	ISO 294	200

C These property characteristics are taken from the CAMPUS plastics data bank and are based on the international catalogue of basic data for plastics according to ISO 10350.

Disclaimer

Disclaimer for Developmental products

* This is a developmental product. Further information, including amended or supplementary data on hazards associated with its use, may be compiled in the future. For this reason no assurances are given as to type conformity, processability, long-term performance characteristics or other production or application parameters. Therefore, the purchaser/user uses the product entirely at his own risk without having been given any warranty or guarantee and agrees that the supplier shall not be liable for any damages, of whatever nature, arising out of such use. Commercialization and continued supply of this material are not assured. Its supply may be discontinued at any time.

Test values

Unless specified to the contrary, the values given have been established on standardised test specimens at room temperature. The figures should be regarded as guide values only and not as binding minimum values. Kindly note that, under certain conditions, the properties can be affected to a considerable extent by the design of the mould/die, the processing conditions and the colouring.

Processing note

Under the recommended processing conditions small quantities of decomposition product may be given off during processing. To preclude any risk to the health and well-being of the machine operatives, tolerance limits for the work environment must be ensured by the provision of efficient exhaust ventilation and fresh air at the workplace in accordance with the Safety Data Sheet. In order to prevent the partial decomposition of the polymer and the generation of volatile decomposition products, the prescribed processing temperatures should not be substantially exceeded. Since excessively high temperatures are generally the result of operator error or defects in the heating system, special care and controls are essential in these areas.

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Page 2 of 2 pages

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Apec[®]
ISO Datasheet

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Product Data

RADEL® R

polyphenylsulfone

R-5800

RADEL R polyphenylsulfone resins offer exceptional hydrolytic stability, and toughness that is superior to other commercially-available, high-temperature engineering resins. They feature high deflection temperatures and outstanding resistance to environmental stress cracking. The polymer is inherently flame retardant, and also has excellent thermal stability and good electrical properties.

RADEL R-5800 is a high melt flow grade that processes readily on conventional injection molding equipment. It is especially well-suited for parts requiring long flow length with thin walls.

Typical Properties of RADEL R-5800 Resin

Property	ASTM Test Method	Typical Values ⁽¹⁾			
		U.S. Customary Units		SI Units	
		Value	Units	Value	Units
Mechanical					
Tensile Strength	D 638	10.1	kpsi	70	MPa
Tensile Modulus	D 638	340	kpsi	2.3	GPa
Tensile Elongation at yield	D 638	7.2	%	7.2	%
Tensile Elongation at break	D 638	60-120	%	60-120	%
Flexural Strength ⁽²⁾	D 790	13.2	kpsi	91	MPa
Flexural Modulus	D 790	350	kpsi	2.4	GPa
Tensile Impact Strength	D 1822	190	ft.-lb/in ²	400	kJ/m ²
Izod Impact, Notched	D 256	13	ft.-lb/in	690	J/m
Thermal					
Deflection Temperature at 264 psi (1.82 MPa)	D 648	405	°F	207	°C
Flammability Rating ⁽³⁾	UL-94	V-0	0.030 in	V-0	0.75 mm
Coefficient of Thermal Expansion	D 696	31	ppm/°F	56	ppm/°C
Glass Transition Temperature ⁽⁴⁾		428	°F	220	°C
Electrical					
Dielectric Strength at 0.125 in. (3.2 mm)	D 149	380	V/mil	15	kV/mm
Dielectric Strength at 0.001 in. (0.02 mm)		>5,000	V/mil	>200	kV/mm
Dielectric Constant at 60 Hz	D 150	3.44		3.44	
Volume Resistivity	D 257	9 x 10 ¹⁵	ohm-cm	9 x 10 ¹⁵	ohm-cm

Chemical

Steam Sterilization ⁽⁵⁾ w/ Morpholine, cycles passed without cracking, crazing, or rupture		>1,000	cycles	>1,000	cycles
Water Absorption at 24 hours	D 570	0.37	%	0.37	%
Water Absorption at Equilibrium	D 570	1.10	%	1.10	%

General and Fabrication

Specific Gravity	D 792	1.29		1.29	
Refractive Index	D 542	1.672		1.672	
Melt Flow at 689°F (365°C), 5.0 kg	D 1238	25	g/10 min	25	g/10 min
Mold Shrinkage	D 955	0.7	%	0.7	%

⁽¹⁾Actual properties of individual batches will vary within specification limits. Unless otherwise specified, properties were measured using one-eighth inch (3.2 mm) thick injection molded specimens.

⁽²⁾at 5% strain

⁽³⁾These flammability ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions.

⁽⁴⁾Measured by differential scanning calorimetry at a heating rate of 36°F (20°C) per minute.

⁽⁵⁾Steam Autoclave Conditions: Temperature, 270°F (132°C); Time, 30 minutes/cycle; Steam pressure, 27 psig (0.19 MPa); Stress Level, 1,000 psi (7.0 MPa) in flexure; Additive, morpholine at 50 ppm.

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RADEL R-5800

Drying

RADEL R polyphenylsulfone resins must be dried completely prior to melt processing. Incomplete drying will result in defects in the formed part ranging from surface streaks to severe bubbling. However, such parts may be recovered as regrind, since there will be no loss of properties. Pellets of RADEL R resins can be dried on trays in a circulating air oven or in a hopper dryer.

Recommended drying conditions for injection molding are 300°F (149°C) for 2.5 hours. For extrusion purposes, more thorough drying is needed. Hopper drying for a minimum of 4 hours at 340°F (171°C) is recommended, desiccated inlet air temperatures up to 360°F (182°C) are usable.

Precautionary Labeling

On the basis of the toxicological, physical, and chemical properties of RADEL R polyphenylsulfone resins, labeling used on containers is as follows:

Caution! Handling and/or processing this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose, and throat.

Product Safety and Emergency Service

For product safety information or a Material Safety Data Sheet on a product of Solvay Advanced Polymers

1 (800) 621-4557
1 (770) 772-8880 outside of U.S.

Injection Molding

RADEL R-5800 resin can be readily injection molded in most screw injection molding machines to close part tolerances. Stock temperature requirements will generally range from 680° to 735°F (360° to 390°C), depending on mold design and the type of equipment being used. A general purpose 2.2:1 compression screw is recommended, with minimum back pressure. Mold temperatures of at least 280°F(138°C) are suggested. For long-flow or thin-walled parts, or where low residual stresses are required use mold temperatures as high as 300° to 325°F (150° to 165°C).

Standard Packaging and Labeling

RADEL R-5800 resin is packaged in multiwall paper bags containing 25 kg (55.115 pounds) of material. Special packaging can be supplied upon request.

Individual packages will be plainly marked with the product number, the color, the lot number, and the net weight.

For information or help in an emergency such as a spill, leak, fire or explosion, call day or night:

Emergency Health Information

1 (800) 621-4590
1 (770) 772-5177 outside of U.S.

Emergency Spill Information

CHEMTREC 1 (800) 424-9300
1 (703) 527-3887 outside of U.S.
collect calls accepted

For Additional Information

Technical Service
1 (800) 621-4557

Customer Service
1 (800) 848-9744

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