

RoHS Lab Analysis Report and Certification



Product Description: TVS 5KW 12V 5%BI DO-214AB TR13 RoHS
Product Number: 5.0SMDJ12CA

This document hereby certifies that the aforementioned product and all its associated materials, are in compliance with RoHS Directive 2011/65/EU of the European Parliament and of the Council on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

Furthermore, it is hereby reported that the aforementioned product is composed of the following materials wherein valid Eu RoHS exemptions may be indicated as applicable.

Table 1. Product material composition and applicable RoHS exemption(s)

ICP ID	Raw Material Part Number	Raw Material Description	Applicable RoHS Exemption(s)
ICP-0027	IC Wafer	Silicon Chip	
ICP-0029	Propriety	Wafer Passivation	7c-I
ICP-0031	Pb:Sn:Ag=92.5:5:2.5	Solder Wafer	7a
ICP-0038	Copper	Lead Frame	
ICP-1776	F367SN10-90P4, Pb90	Solder Paste	7a
ICP-0377	Copper	Clip	
ICP-0028	EME-E110G	Epoxy Molding Compound	
ICP-1787	Pure Matte Tin	Tin Plating (SMD)	

Remarks: 7a - Lead in high melting temperature type solders (lead-based alloys containing 85 % by weight or more lead)
7c-I - Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors (piezoelectronic devices) or in a glass or ceramic matrix compound

To view the third party RoHS validation report of these materials, see download procedure below.

1. Open the FTP website on your windows explorer: ftp://pubftp.littelfuse.com/ICP_Test_Reports/
2. Retrieve the username and password thru your corresponding Sales / FAE or email envrequests@littelfuse.com
3. Find the corresponding ICP ID and download the corresponding ICP report.

Issued by:



Diana Jane D. Gabinete
Environmental Data Analyst

Noted by:



Arsenio M. Cesista, Jr.
Global EHS Manager

RoHS Lab Analysis Report and Certification



Product Description: TVS 5KW 58V 5%UNI DO-214AB TR13 RoHS
Product Number: 5.0SMDJ58A

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Table 1. Product material composition and applicable RoHS exemption(s)

ICP ID	Raw Material Part Number	Raw Material Description	Applicable RoHS Exemption(s)
ICP-0027	IC Wafer	Silicon Chip	
ICP-0029	Propriety	Wafer Passivation	7c-1
ICP-0031	Pb:Sn:Ag=92.5:5:2.5	Solder Wafer	7a
ICP-0038	Copper	Lead Frame	
ICP-1776	F367SN10-90P4, Pb90	Solder Paste	7a
ICP-0377	Copper	Clip	
ICP-0028	EME-E110G	Epoxy Molding Compound	
ICP-1787	Pure Matte Tin	Tin Plating (SMD)	

Remarks: 7a - Lead in high melting temperature type solders (lead-based alloys containing 85 % by weight or more lead)
 7c-1 - Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors (piezoelectric devices) or in a glass or ceramic matrix compound

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Issued by:



Jennilyn R. Dinglasan
 Global EHS Analyst



Noted by: Arsenio M. Cesista, Jr.
 Global EHS Manager

RoHS Lab Analysis Report and Certification



Product Description: TVS 5KW 70V 5%BI DO-214AB TR13 RoHS
Product Number: 5.0SMDJ70CA

This document hereby certifies that the aforementioned product and all its associated materials, are in compliance with RoHS Directive 2011/65/EU of the European Parliament and of the Council on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

Furthermore, it is hereby reported that the aforementioned product is composed of the following materials wherein valid Eu RoHS exemptions may be indicated as applicable.

Table 1. Product material composition and applicable RoHS exemption(s)

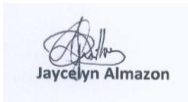
ICP ID	Raw Material Part Number	Raw Material Description	Applicable RoHS Exemption(s)
ICP-0027	IC Wafer	Silicon Chip	
ICP-0029	Propriety	Wafer Passivation	7c-I
ICP-0031	Pb:Sn:Ag=92.5:5:2.5	Solder Wafer	7a
ICP-0038	Copper	Lead Frame	
ICP-1776	F367SN10-90P4, Pb90Sn10	Solder Paste	7a
ICP-0377	Copper	Clip	
ICP-0028	EME-E110G	Epoxy Molding Compound	
ICP-1787	Pure Matte Tin	Tin Plating (SMD)	

Remarks: 7a - Lead in high melting temperature type solders (lead-based alloys containing 85 % by weight or more lead)
 7c-I - Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors (piezoelectronic devices) or in a glass or ceramic matrix compound

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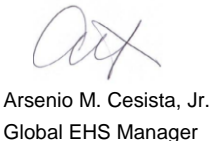
Issued by:



Jaycelyn Almazon

Global EHS Analyst

Noted by:



Arsenio M. Cesista, Jr.
 Global EHS Manager

RoHS Lab Analysis Report and Certification



Product Description: TVS 5KW 17V 5%UNI DO-214AB TR13 RoHS
Product Number: 5.0SMDJ17A

This document hereby certifies that the aforementioned product and all its associated materials, are in compliance with RoHS Directive 2011/65/EU of the European Parliament and of the Council on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

Furthermore, it is hereby reported that the aforementioned product is composed of the following materials wherein valid Eu RoHS exemptions may be indicated as applicable.

Table 1. Product material composition and applicable RoHS exemption(s)

ICP ID	Raw Material Part Number	Raw Material Description	Applicable RoHS Exemption(s)
ICP-0027	IC Wafer	Silicon Chip	
ICP-0029	Propriety	Wafer Passivation	7c-1
ICP-0031	Pb:Sn:Ag=92.5:5:2.5	Solder Wafer	7a
ICP-0038	Copper	Lead Frame	
ICP-1776	F367SN10-90P4, Pb90	Solder Paste	7a
ICP-0377	Copper	Clip	
ICP-0028	EME-E110G	Epoxy Molding Compound	
ICP-1787	Pure Matte Tin	Tin Plating (SMD)	

Remarks: 7a - Lead in high melting temperature type solders (lead-based alloys containing 85 % by weight or more lead)
 7c-1 - Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors (piezoelectric devices) or in a glass or ceramic matrix compound

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Issued by:



Jennilyn R. Dinglasan
 Global EHS Analyst



Noted by: Arsenio M. Cesista, Jr.
 Global EHS Manager

RoHS Lab Analysis Report and Certification



Product Description: TVS 5KW 100V 5%BI DO-214AB TR13 RoHS
Product Number: 5.0SMDJ100CA

This document hereby certifies that the aforementioned product and all its associated materials, are in compliance with RoHS Directive 2011/65/EU of the European Parliament and of the Council on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

Furthermore, it is hereby reported that the aforementioned product is composed of the following materials wherein valid Eu RoHS exemptions may be indicated as applicable.

Table 1. Product material composition and applicable RoHS exemption(s)

ICP ID	Raw Material Part Number	Raw Material Description	Applicable RoHS Exemption(s)
ICP-0027	IC Wafer	Silicon Chip	
ICP-0029	Propriety	Wafer Passivation	7c-1
ICP-0031	Pb:Sn:Ag=92.5:5:2.5	Solder Wafer	7a
ICP-0038	Copper	Lead Frame	
ICP-1776	F367SN10-90P4, Pb90Sn10	Solder Paste	7a
ICP-0028	EME-E110G	Epoxy Molding Compound	
ICP-1787	Pure Matte Tin	Tin Plating (SMD)	

Remarks: 7a - Lead in high melting temperature type solders (lead-based alloys containing 85 % by weight or more lead)
 7c-1 - Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors (piezoelectronic devices) or in a glass or ceramic matrix compound

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Issued by:



Jennilyn R. Dinglasan
 Global EHS Supervisor



Noted by: Arsenio M. Cesista, Jr.
 Global EHS Manager

RoHS Lab Analysis Report and Certification



Product Description: TVS 5KW 58V 5%BI DO-214AB TR13 RoHS
Product Number: 5.0SMDJ58CA

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Table 1. Product material composition and applicable RoHS exemption(s)


ICP ID	Raw Material Part Number	Raw Material Description	Applicable RoHS Exemption(s)
ICP-0027	IC Wafer	Silicon Chip	
ICP-0029	Propriety	Wafer Passivation	7c-1
ICP-0031	Pb:Sn:Ag=92.5:5:2.5	Solder Wafer	7a
ICP-0038	Copper	Lead Frame	
ICP-1776	F367SN10-90P4, Pb90Sn10	Solder Paste	7a
ICP-0028	EME-E110G	Epoxy Molding Compound	
ICP-1787	Pure Matte Tin	Tin Plating (SMD)	

Remarks: 7a - Lead in high melting temperature type solders (lead-based alloys containing 85 % by weight or more lead)
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Jennilyn R. Dinglasan
 Global EHS Supervisor

Noted by:



Arsenio M. Cesista, Jr.
 Global EHS Manager

RoHS Lab Analysis Report and Certification



Product Description: TVS 5KW 15V 5%UNI DO-214AB TR13 RoHS
Product Number: 5.0SMDJ15A

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Table 1. Product material composition and applicable RoHS exemption(s)

ICP ID	Raw Material Part Number	Raw Material Description	Applicable RoHS Exemption(s)
ICP-0027	IC Wafer	Silicon Chip	
ICP-0029	Propriety	Wafer Passivation	7c-l
ICP-0031	Pb:Sn:Ag=92.5:5:2.5	Solder Wafer	7a
ICP-0038	Copper	Lead Frame	
ICP-1776	F367SN10-90P4, Pb90	Solder Paste	7a
ICP-0377	Copper	Clip	
ICP-0028	EME-E110G	Epoxy Molding Compound	
ICP-1787	Pure Matte Tin	Tin Plating (SMD)	

Remarks: 7a - Lead in high melting temperature type solders (lead-based alloys containing 85 % by weight or more lead)
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Issued by:


Diana Jane De Guzman - Gabinete
Global EHS Analyst

Noted by:


Arsenio M. Cesista, Jr.
Global EHS Manager

RoHS Lab Analysis Report and Certification



Product Description: TVS 5KW 33V 5%BI DO-214AB TR13 RoHS
Product Number: 5.0SMDJ33CA

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ICP-0027	IC Wafer	Silicon Chip	
ICP-0029	Propriety	Wafer Passivation	7c-l
ICP-0031	Pb:Sn:Ag=92.5:5:2.5	Solder Wafer	7a
ICP-0038	Copper	Lead Frame	
ICP-1776	F367SN10-90P4, Pb90Sn10	Solder Paste	7a
ICP-0028	EME-E110G	Epoxy Molding Compound	
ICP-1787	Pure Matte Tin	Tin Plating (SMD)	

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Issued by:



Sharie Lyn S. Mantilla
Global EHS Engineer

Noted by:



Arsenio M. Cesista, Jr.
Global EHS Manager



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 Suite 500
 Chicago, IL 60631
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RoHS Lab Analysis Report and Certification



Product Description: TVS 5KW 18V 5%UNI DO-214AB TR13 RoHS
Product Number: 5.0SMDJ18A

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Table 1. Product material composition and applicable RoHS exemption(s)


ICP ID	Raw Material Part Number	Raw Material Description	Applicable RoHS Exemption(s)
ICP-0027	IC Wafer	Silicon Chip	
ICP-0029	Propriety	Wafer Passivation	7c-l
ICP-0031	Pb:Sn:Ag=92.5:5:2.5	Solder Wafer	7a
ICP-0038	Copper	Lead Frame	
ICP-1776	F367SN10-90P4, Pb90Sn10	Solder Paste	7a
ICP-0028	EME-E110G	Epoxy Molding Compound	
ICP-1787	Pure Matte Tin	Tin Plating (SMD)	

Remarks: 7a - Lead in high melting temperature type solders (lead-based alloys containing 85 % by weight or more lead)
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Issued by: 
 Sharie Lyn S. Mantilla
 Global EHS Engineer

Noted by: 
 Arsenio M. Cesista, Jr.
 Global EHS Manager



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ICP-0027	IC Wafer	Silicon Chip	
ICP-0029	Propriety	Wafer Passivation	7c-l
ICP-0031	Pb:Sn:Ag=92.5:5:2.5	Solder Wafer	7a
ICP-0038	Copper	Lead Frame	
ICP-1776	F367SN10-90P4, Pb90Sn10	Solder Paste	7a
ICP-0377	Copper	Clip	
ICP-0028	EME-E110G	Epoxy Molding Compound	
ICP-1787	Pure Matte Tin	Tin Plating (SMD)	

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Table 1. Product material composition and applicable RoHS exemption(s)


ICP ID	Raw Material Part Number	Raw Material Description	Applicable RoHS Exemption(s)
ICP-0027	IC Wafer	Silicon Chip	
ICP-0029	Propriety	Wafer Passivation - Glass (White Powder)	7c-l
ICP-0031	Pb:Sn:Ag=92.5:5:2.5	Solder Wafer (Silvery Solder Wafer)	7a
ICP-0038	Copper	Lead Frame	
ICP-1776	F367SN10-90P4, Pb90Sn10	Solder Paste	7a
ICP-0377	Copper	Clip	
ICP-0028	EME-E110G	Epoxy Molding Compound	
ICP-1787	Pure Matte Tin	Tin Plating (SMD)	

Remarks: 7a - Lead in high melting temperature type solders (lead-based alloys containing 85 % by weight or more lead)
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RoHS Lab Analysis Report and Certification



Product Description: TVS 5KW 30V 5%BI DO-214AB TR13 RoHS
Product Number: 5.0SMDJ30CA

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Table 1. Product material composition and applicable RoHS exemption(s)


ICP ID	Raw Material Part Number	Raw Material Description	Applicable RoHS Exemption(s)
ICP-0027	IC Wafer	Silicon Chip	
ICP-0029	Propriety	Wafer Passivation - Glass (White Powder)	7c-l
ICP-0031	Pb:Sn:Ag=92.5:5:2.5	Solder Wafer (Silvery Solder Wafer)	7a
ICP-0038	Copper	Lead Frame	
ICP-1776	F367SN10-90P4, Pb90Sn10	Solder Paste	7a
ICP-0377	Copper	Clip	
ICP-0028	EME-E110G	Epoxy Molding Compound	
ICP-1787	Pure Matte Tin	Tin Plating (SMD)	

Remarks: 7a - Lead in high melting temperature type solders (lead-based alloys containing 85 % by weight or more lead)
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RoHS Lab Analysis Report and Certification



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Product Number: 5.0SMDJ33A

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Table 1. Product material composition and applicable RoHS exemption(s)


ICP ID	Raw Material Part Number	Raw Material Description	Applicable RoHS Exemption(s)
ICP-0027	Silicon+Nickel	Silicon Wafer w/ Ni plating	
ICP-0029	Propriety	Wafer Passivation	7c-l
ICP-0031	Pb:Sn:Ag=92.5:5:2.5	Solder Wafer (Silvery Solder Wafer)	7a
ICP-0377	Copper	Clip (Copper Metal)	
ICP-0038	Copper	Lead Frame/Lead Frame Matrix/TO-220 Lead Frame/Heatsink (Copper Metal)	
ICP-0050	F367SN10-90P4	Solder Paste	7a
ICP-0028	EME-E110G	Grey Epoxy Molding Compound	
ICP-1787	Pure Matte Tin	Tin Plating (SMD)	

Remarks: 7a - Lead in high melting temperature type solders (lead-based alloys containing 85 % by weight or more lead)
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RoHS Lab Analysis Report and Certification



Product Description: TVS 5KW 36V 5%UNI DO-214AB TR13 RoHS
Product Number: 5.0SMDJ36A

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Table 1. Product material composition and applicable RoHS exemption(s)

ICP ID	Raw Material Part Number	Raw Material Description	Applicable RoHS Exemption(s)
ICP-0027	Silicon+Nickel	Silicon Wafer w/ Ni plating	
ICP-0029	Propriety	Wafer Passivation	7c-l
ICP-0031	Pb:Sn:Ag=92.5:5:2.5	Solder Wafer (Silvery Solder Wafer)	7a
ICP-0377	Copper	Clip (Copper Metal)	
ICP-0038	Copper	Lead Frame/Lead Frame Matrix/TO-220 Lead Frame/Heatsink (Copper Metal)	
ICP-0050	F367SN10-90P4	Solder Paste	7a
ICP-0028	EME-E110G	Grey Epoxy Molding Compound	
ICP-1787	Pure Matte Tin	Tin Plating (SMD)	

Remarks: 7a - Lead in high melting temperature type solders (lead-based alloys containing 85 % by weight or more lead)
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 Global EHS Engineer

Noted by:

Arsenio M. Cesista, Jr.
 Global EHS Manager

RoHS Lab Analysis Report and Certification



Product Description: TVS 5KW 13V 5%UNI DO-214AB TR13 RoHS
Product Number: 5.0SMDJ13A

This document hereby certifies that the aforementioned product and all its associated materials, are in compliance with RoHS Directive 2011/65/EU of the European Parliament and of the Council on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

Furthermore, it is hereby reported that the aforementioned product is composed of the following materials wherein valid Eu RoHS exemptions may be indicated as applicable.

Table 1. Product material composition and applicable RoHS exemption(s)

ICP ID	Raw Material Part Number	Raw Material Description	Applicable RoHS Exemption(s)
ICP-0027	Silicon+Nickel	Silicon Wafer With Nickel Plating	
ICP-0029	Propriety	Wafer Passivation - Glass (White Powder)	7c-l
ICP-0031	Pb:Sn:Ag=92.5:5:2.5	Solder Wafer (Silvery Solder Wafer)	7a
ICP-0377	Copper	Clip	
ICP-0038	Copper	Lead Frame	
ICP-0050	F367SN10-90P4	Solder Paste	7a
ICP-0028	EME-E110G	Grey Epoxy Molding Compound	
ICP-1787	Pure Matte Tin	Tin Plating (SMD)	

Remarks: 7a - Lead in high melting temperature type solders (lead-based alloys containing 85 % by weight or more lead)
7c-l - Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors (piezoelectronic devices) or in a glass or ceramic matrix compound

To view the third party RoHS validation report of these materials, see download procedure below.

1. Open the FTP website on your windows explorer: ftp://pubftp.littelfuse.com/ICP_Test_Reports/
2. Retrieve the username and password thru your corresponding Sales / FAE or email envrequests@littelfuse.com
3. Find the corresponding ICP ID and download the corresponding ICP report.

Issued by:



Sharie Lyn S. Mantilla
Global EHS Engineer

Noted by:



Arsenio M. Cesista, Jr.
Global EHS Manager

RoHS Lab Analysis Report and Certification



Product Description: TVS 5KW 14V 5%UNI DO-214AB TR13 RoHS
Product Number: 5.0SMDJ14A

This document hereby certifies that the aforementioned product and all its associated materials, are in compliance with RoHS Directive 2011/65/EU of the European Parliament and of the Council on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

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Table 1. Product material composition and applicable RoHS exemption(s)

ICP ID	Raw Material Part Number	Raw Material Description	Applicable RoHS Exemption(s)
ICP-0027	Silicon+Nickel	Silicon Wafer With Nickel Plating	
ICP-0029	Propriety	Wafer Passivation - Glass (White Powder)	7c-l
ICP-0031	Pb:Sn:Ag=92.5:5:2.5	Solder Wafer (Silvery Solder Wafer)	7a
ICP-0377	Copper	Clip	
ICP-0038	Copper	Lead Frame	
ICP-0050	F367SN10-90P4	Solder Paste	7a
ICP-0028	EME-E110G	Grey Epoxy Molding Compound	
ICP-1787	Pure Matte Tin	Tin Plating (SMD)	

Remarks: 7a - Lead in high melting temperature type solders (lead-based alloys containing 85 % by weight or more lead)
7c-l - Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors (piezoelectronic devices) or in a glass or ceramic matrix compound

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Issued by:



Sharie Lyn S. Mantilla
Global EHS Engineer

Noted by:



Arsenio M. Cesista, Jr.
Global EHS Manager



Expertise Applied | Answers Delivered
 8755 W. Higgins Road
 Suite 500
 Chicago, IL 60631
 www.littelfuse.com

RoHS Lab Analysis Report and Certification



Product Description: TVS 5KW 36V 5%BI DO-214AB TR13 RoHS
Product Number: 5.0SMDJ36CA

This document hereby certifies that the aforementioned product and all its associated materials, are in compliance with RoHS Directive 2011/65/EU of the European Parliament and of the Council on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

Furthermore, it is hereby reported that the aforementioned product is composed of the following materials wherein valid Eu RoHS exemptions may be indicated as applicable.

Table 1. Product material composition and applicable RoHS exemption(s)

ICP ID	Raw Material Part Number	Raw Material Description	Applicable RoHS Exemption(s)
ICP-0027	Silicon+Nickel	Silicon Wafer with Nickel Plating	
ICP-0029	Propriety	Wafer Passivation	7c-l
ICP-0031	Pb:Sn:Ag=92.5:5:2.5	Solder Wafer (Silvery Solder Wafer)	7a
ICP-0377	Copper	Clip	
ICP-0038	Copper	Lead Frame	
ICP-0050	F367SN10-86D4	Solder Paste	7a
ICP-0028	EME-E110G	Epoxy Molding Compound	
ICP-1787	Pure Matte Tin	Tin Plating (SMD)	

Remarks: 7a - Lead in high melting temperature type solders (lead-based alloys containing 85 % by weight or more lead)
 7c-l - Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors (piezoelectronic devices) or in a glass or ceramic matrix compound

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 Global EHS Engineer

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