Aug 25th, 2020

RE: LFPCN 41357 - Littelfuse TVS DO-214AB Package Lead Frame Optimization

To: Our Valued Customers

Littelfuse would like to notify you of succeeding in optimization of TVS DO-214AB lead frame for much better quality and reliability of TVS Diodes, in order to achieve the pursuit of continuous improvement and more and more excellent value to customers.

There are no changes on FIT, form or function of the finished product, but better quality and reliability of the product.

Qualification efforts are complete. All affected products have been fully qualified in accordance with established performance and reliability criteria. Please see the attached documentation for change details and affected part numbers.

Form, fit, function changes: None
Part number changes: None
Effective date: Dec 25th, 2020 or sooner
Replacement products: N/A
Last time buy: N/A

This notification is for your information and acknowledgement. If you have any other questions or concerns, please contact your local sales team or product team below for further assistance.

We highly value your business and look forward to assisting you whenever possible.

Sincerely,

Jenny Chen
Assistant Product Marketing Manager
Commercial TVS Products
Tel: +86 510 85277701 Ext – 7779
Jchen7@littelfuse.com

Product/Process Change Notice (PCN)

PCN#: LFPCN #41357 Date: Aug 25th, 2020	**Contact Information**
Product Identification:	Name: Jenny Chen
TVS STD DO-214AB SMC package	Title: Assistant Product Manager
Implementation Date for Change:	Phone #: +86 510 85277710 Ext. 7965
Dec 25th, 2020 or sooner	Fax#: N/A
	E-mail: jchen7@littelfuse.com

Category of Change:

☐ Assembly Process

☐ Data Sheet

☐ Technology

☐ Discontinuance/Obsolescence

☐ Equipment

☐ Manufacturing Site

☒ Raw Material

☐ Testing

☐ Fabrication Process

☐ Other: _____

Description of Change:

Littelfuse TVS DO-214AB Package Lead Frame Optimization for much better quality and reliability of TVS Diodes.

Important Dates:

☒ Qualification Samples Available: Available upon the request   ☐ Last Time Buy:

☐ Final Qualification Data Available:

☒ Date of Final Product Shipment: Dec 25th, 2020

Method of Distinguishing Changed Product

☐ Product Mark,

☐ Date Code,

☐ Other,

Demonstrated or Anticipated Impact on Form, Fit, Function or Reliability:

N/A

LF Qualification Plan/Results:

Littelfuse Qualification Report is available as attached.

Customer Acknowledgement of Receipt: Littelfuse requests you acknowledge receipt of this PCN. In your acknowledgement, you can grant approval or request additional information. Littelfuse will assume the change is acceptable if no acknowledgement is received within 30 days of this notice. Lack of any additional response within 90 days of PCN issuance further constitutes acceptance of the change.

PCN Report

Prepared By	: Hellen Yang – Sr. Product Engineer,
Date	: 8/18/2020
Device	: DO-214AB Leadframe molding lock & V groove optimization
Revision	: A

1.0 <u>Objective:</u>

The purpose of this project is to qualify DO-214AB TVS with optimized leadframe mold lock design &remove V groove to reduce trim &form stress and soldering stress. Succeeding pages summarize the material and reliability test performed in qualification lots.

2.0 <u>Applicable Devices:</u>

Part Numbers	Package
SMCJ33A	DO-214AB
SMDJ58CA	DO-214AB

3.0 <u>Assembly, Process & Material Differences/Changes:</u>

3.1 Assembly and Process Changes

There are no significant changes in the assembly and process method.

3.2 Material Changes

Current   New
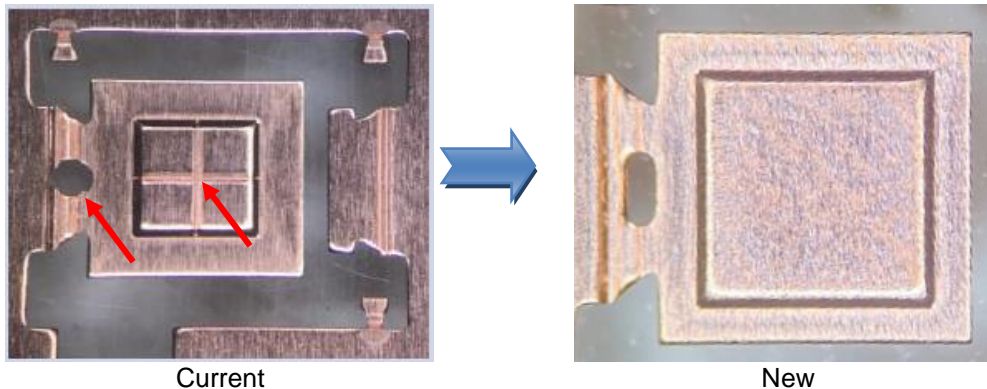
4.0 <u>Packing Method</u>

There are no significant changes in the packing.

5.0 <u>Physical Differences/Changes:</u>

There is no change in mechanical specification or package outline dimension (POD).

6.0 <u>Reliability Test Results Summary:</u>

Test Category	Description	Sample P/N	Package	Sample Qty	Littelfuse test Ref#	Contents/ Conditions	Standard	Result Summary
Parametric	Electrical Parameters	SMCJ33A	DO-214AB	80	134689	VBR, IR		100% meet published spec.
		SMDJ58CA	DO-214AB	80	134688			
		SMDJ58CA	DO-214AB	80	134688			
Reliability	Pre-condition	SMCJ33A	DO-214AB	80	134689	SMD qualification parts for TC,AC,H3TRB, Autoclave	JESD22- A113	Follow JESD22-A113D
		SMDJ58CA	DO-214AB	80	134688			
		SMDJ58CA	DO-214AB	80	134688			
	Biased Temp & Humidity (H3TRB)	SMCJ33A	DO-214AB	40	134689	VR @85C,85%RH,	JESD22-A101	0% failure at 1008 hours
		SMDJ58CA	DO-214AB	40	134688			
		SMDJ58CA	DO-214AB	40	134688			
	Temp Cycle	SMCJ33A	DO-214AB	40	134689	1000cycles, -55°C & +150°C, dwell time 15mins, transfer time less than 10sec.	JESD22-A104	0% failure at 1000 cycles
		SMDJ58CA	DO-214AB	40	134688			
		SMDJ58CA	DO-214AB	40	134688			

7.0 Electrical Characteristic Summary:

There is no change in electrical characteristics.

8.0 Recommendations & Conclusions:

Based on the test results, it is determined that the optimized leadframe is qualified and certified for Littelfuse DO-214AB Product Series.

9.0 Approvals:

Hellen Yang
Sr. Product Engineer
Littelfuse, Wuxi

10.0 Appendix I –Affected part number list

Material	Material	Material	Material
1.5SMC10	SMDJ100A-T7	8.0SMDJ18CA	5.0SMDJ51A-T7
1.5SMC100	SMDJ100C	8.0SMDJ18CA-T7	5.0SMDJ51AS
1.5SMC100A	SMDJ100CA	8.0SMDJ20A	5.0SMDJ51CA
1.5SMC100C	SMDJ100CA-T7	8.0SMDJ20A-T7	5.0SMDJ51CA-T7
1.5SMC100CA	SMDJ10A	8.0SMDJ20CA	5.0SMDJ51CAS
1.5SMC10A	SMDJ10A-T7	8.0SMDJ20CA-T7	5.0SMDJ54A
1.5SMC10C	SMDJ10C	8.0SMDJ22A	5.0SMDJ54A-T7
1.5SMC10CA	SMDJ10CA	8.0SMDJ22A-T7	5.0SMDJ54AS
1.5SMC11	SMDJ10CA-T7	8.0SMDJ22CA	5.0SMDJ54CA
1.5SMC110	SMDJ11	8.0SMDJ22CA-T7	5.0SMDJ54CA-T7
1.5SMC110A	SMDJ110	8.0SMDJ24A	5.0SMDJ54CAS
1.5SMC110C	SMDJ110A	8.0SMDJ24A-T7	5.0SMDJ58A
1.5SMC110CA	SMDJ110A-T7	8.0SMDJ24CA	5.0SMDJ58A-T7
1.5SMC11A	SMDJ110C	8.0SMDJ24CA-T7	5.0SMDJ58AS
1.5SMC11C	SMDJ110CA	8.0SMDJ26A	5.0SMDJ58CA
1.5SMC11CA	SMDJ110CA-T7	8.0SMDJ26A-T7	5.0SMDJ58CA-DH
1.5SMC12	SMDJ11A	8.0SMDJ26CA	5.0SMDJ58CA-T7
1.5SMC120	SMDJ11A-T7	8.0SMDJ26CA-T7	5.0SMDJ58CAS
1.5SMC120A	SMDJ11C	8.0SMDJ28A	5.0SMDJ6.0AS

1.5SMC120C	SMDJ11CA	8.0SMDJ28A-T7	5.0SMDJ6.0CAS
1.5SMC120CA	SMDJ11CA-T7	8.0SMDJ28CA	5.0SMDJ6.5AS
1.5SMC12A	SMDJ12	8.0SMDJ28CA-T7	5.0SMDJ6.5CAS
1.5SMC12C	SMDJ120	8.0SMDJ30A	5.0SMDJ60A
1.5SMC12CA	SMDJ120A	8.0SMDJ30A-T7	5.0SMDJ60A-FUJI
1.5SMC13	SMDJ120A-T7	8.0SMDJ30CA	5.0SMDJ60A-T7
1.5SMC130	SMDJ120C	8.0SMDJ30CA-T7	5.0SMDJ60CA
1.5SMC130A	SMDJ120CA	8.0SMDJ33A	5.0SMDJ60CA-FUJI
1.5SMC130C	SMDJ120CA-T7	8.0SMDJ33A-T7	5.0SMDJ60CA-T7
1.5SMC130CA	SMDJ12A	8.0SMDJ33CA	5.0SMDJ64A
1.5SMC13A	SMDJ12A-T7	8.0SMDJ33CA-T7	5.0SMDJ64A-T7
1.5SMC13C	SMDJ12C	8.0SMDJ36A	5.0SMDJ64CA
1.5SMC13CA	SMDJ12CA	8.0SMDJ36A-T7	5.0SMDJ64CA-T7
1.5SMC15	SMDJ12CA-T7	8.0SMDJ36CA	5.0SMDJ7.0AS
1.5SMC150	SMDJ13	8.0SMDJ36CA-T7	5.0SMDJ7.0CAS
1.5SMC150A	SMDJ130	8.0SMDJ40A	5.0SMDJ7.5AS
1.5SMC150C	SMDJ130A	8.0SMDJ40A-T7	5.0SMDJ7.5CAS
1.5SMC150CA	SMDJ130A-T7	8.0SMDJ40CA	5.0SMDJ70A
1.5SMC15A	SMDJ130C	8.0SMDJ40CA-T7	5.0SMDJ70A-T7
1.5SMC15A-N	SMDJ130CA	8.0SMDJ43A	5.0SMDJ70CA
1.5SMC15C	SMDJ130CA-T7	8.0SMDJ43A-T7	5.0SMDJ70CA-54T7
1.5SMC15CA	SMDJ13A	8.0SMDJ43CA	5.0SMDJ70CA-T7
1.5SMC16	SMDJ13A-T7	8.0SMDJ43CA-T7	5.0SMDJ75A
1.5SMC160	SMDJ13C	8.0SMDJ45A	5.0SMDJ75A-T7
1.5SMC160A	SMDJ13CA	8.0SMDJ45A-T7	5.0SMDJ75A-ZTE
1.5SMC160C	SMDJ13CA-T7	8.0SMDJ45CA	5.0SMDJ75CA
1.5SMC160CA	SMDJ14	8.0SMDJ45CA-T7	5.0SMDJ75CA-54T7
1.5SMC16A	SMDJ14A	8.0SMDJ48A	5.0SMDJ75CA-ER
1.5SMC16C	SMDJ14A-T7	8.0SMDJ48A-T7	5.0SMDJ75CA-T7
1.5SMC16CA	SMDJ14C	8.0SMDJ48CA	5.0SMDJ75CA-ZTE
1.5SMC16CA-54	SMDJ14CA	8.0SMDJ48CA-T7	5.0SMDJ78A
1.5SMC16CA-54T7	SMDJ14CA-T7	8.0SMDJ51A	5.0SMDJ78A-T7
1.5SMC170	SMDJ15	8.0SMDJ51A-T7	5.0SMDJ78CA
1.5SMC170A	SMDJ150	8.0SMDJ51CA	5.0SMDJ78CA-T7
1.5SMC170C	SMDJ150A	8.0SMDJ51CA-T7	5.0SMDJ8.0AS
1.5SMC170CA	SMDJ150A-T7	8.0SMDJ54A	5.0SMDJ8.0CAS
1.5SMC18	SMDJ150C	8.0SMDJ54A-T7	5.0SMDJ8.5AS
1.5SMC180	SMDJ150CA	8.0SMDJ54CA	5.0SMDJ8.5CAS
1.5SMC180A	SMDJ150CA-T7	8.0SMDJ54CA-T7	5.0SMDJ85A
1.5SMC180C	SMDJ15A	8.0SMDJ58A	5.0SMDJ85A-T7
1.5SMC180CA	SMDJ15A-T7	8.0SMDJ58A-T7	5.0SMDJ85CA
1.5SMC18A	SMDJ15C	8.0SMDJ58CA	5.0SMDJ85CA-T7
1.5SMC18A-23-TR71	SMDJ15CA	8.0SMDJ58CA-T7	5.0SMDJ85CA-ZTE

1.5SMC18C	SMDJ15CA-G	8.0SMDJ60A	5.0SMDJ9.0AS
1.5SMC18CA	SMDJ15CA-T7	8.0SMDJ60A-T7	5.0SMDJ9.0CAS
1.5SMC18CA-23-TR71	SMDJ16	8.0SMDJ60CA	5.0SMDJ90A
1.5SMC20	SMDJ160	8.0SMDJ60CA-T7	5.0SMDJ90A-T7
1.5SMC200	SMDJ160A	8.0SMDJ64A	5.0SMDJ90CA
1.5SMC200A	SMDJ160A-T7	8.0SMDJ64A-T7	5.0SMDJ90CA-T7
1.5SMC200C	SMDJ160C	8.0SMDJ64CA	8.0SMDJ100A
1.5SMC200CA	SMDJ160CA	8.0SMDJ64CA-T7	8.0SMDJ100A-T7
1.5SMC20A	SMDJ160CA-T7	8.0SMDJ70A	8.0SMDJ100CA
1.5SMC20C	SMDJ16A	8.0SMDJ70A-T7	8.0SMDJ100CA-T7
1.5SMC20CA	SMDJ16A-ER	8.0SMDJ70CA	8.0SMDJ110A
1.5SMC22	SMDJ16A-ER1	8.0SMDJ70CA-T7	8.0SMDJ110A-T7
1.5SMC220	SMDJ16A-T7	8.0SMDJ75A	8.0SMDJ110CA
1.5SMC220A	SMDJ16C	8.0SMDJ75A-T7	8.0SMDJ110CA-T7
1.5SMC220C	SMDJ16CA	8.0SMDJ75CA	8.0SMDJ12A
1.5SMC220CA	SMDJ16CA-T7	8.0SMDJ75CA-T7	8.0SMDJ12A-T7
1.5SMC22A	SMDJ17	8.0SMDJ78A	8.0SMDJ12CA
1.5SMC22C	SMDJ170	8.0SMDJ78A-T7	8.0SMDJ12CA-T7
1.5SMC22CA	SMDJ170A	8.0SMDJ78CA	8.0SMDJ13A
1.5SMC24	SMDJ170A-T7	8.0SMDJ78CA-T7	8.0SMDJ13A-T7
1.5SMC24A	SMDJ170C	8.0SMDJ85A	8.0SMDJ13CA
1.5SMC24C	SMDJ170CA	8.0SMDJ85A-T7	8.0SMDJ13CA-T7
1.5SMC24CA	SMDJ170CA-T7	8.0SMDJ85CA	8.0SMDJ14A
1.5SMC250	SMDJ17A	8.0SMDJ85CA-T7	8.0SMDJ14A-T7
1.5SMC250A	SMDJ17A-T7	8.0SMDJ90A	8.0SMDJ14CA
1.5SMC250C	SMDJ17C	8.0SMDJ90A-T7	8.0SMDJ14CA-T7
1.5SMC250CA	SMDJ17CA	8.0SMDJ90CA	8.0SMDJ15A
1.5SMC27	SMDJ17CA-T7	8.0SMDJ90CA-T7	8.0SMDJ15A-T7
1.5SMC27A	SMDJ18	SMCJ10	8.0SMDJ15CA
1.5SMC27C	SMDJ180A	SMCJ100	8.0SMDJ15CA-T7
1.5SMC27CA	SMDJ180A-T7	SMCJ100A	8.0SMDJ16A
1.5SMC30	SMDJ180CA	SMCJ100C	8.0SMDJ16A-T7
1.5SMC300	SMDJ180CA-54T7	SMCJ100CA	8.0SMDJ16CA
1.5SMC300A	SMDJ18A	SMCJ10A	8.0SMDJ16CA-T7
1.5SMC300C	SMDJ18A-T7	SMCJ10A-GR-GT3	8.0SMDJ17A
1.5SMC300CA	SMDJ18C	SMCJ10A-GR-GT3R	8.0SMDJ17A-T7
1.5SMC300CA-54T7	SMDJ18CA	SMCJ10AS-GT3	8.0SMDJ17CA
1.5SMC30A	SMDJ18CA-T7	SMCJ10AS-GT7	8.0SMDJ17CA-T7
1.5SMC30C	SMDJ20	SMCJ10C	8.0SMDJ18A
1.5SMC30CA	SMDJ200A	SMCJ10CA	8.0SMDJ18A-T7
1.5SMC33	SMDJ200CA	SMCJ10CA-GT3	1.5SMC68C
1.5SMC33A	SMDJ20A	SMCJ10CA-GT3R	1.5SMC68CA

1.5SMC33A-100	SMDJ20A-100	SMCJ10CA-SA-GT3	1.5SMC7.5
1.5SMC33C	SMDJ20A-101	SMCJ10CA-SA-GT3R	1.5SMC7.5A
1.5SMC33CA	SMDJ20A-HW	SMCJ10CAS-GT3	1.5SMC7.5C
1.5SMC350	SMDJ20A-T7	SMCJ10CAS-GT7	1.5SMC7.5CA
1.5SMC350A	SMDJ20A-TN	SMCJ11	1.5SMC75
1.5SMC350A-54T7	SMDJ20A-TN7	SMCJ110	1.5SMC75A
1.5SMC350C	SMDJ20C	SMCJ110A	1.5SMC75A-ER
1.5SMC350CA	SMDJ20CA	SMCJ110C	1.5SMC75C
1.5SMC36	SMDJ20CA-T7	SMCJ110CA	1.5SMC75CA
1.5SMC36A	SMDJ20CA-ZG	SMCJ11A	1.5SMC8.2
1.5SMC36C	SMCJ170CA	SMCJ11A-23-TR71	1.5SMC8.2A
1.5SMC36CA	SMCJ170CA-SA-GT3	SMCJ11C	1.5SMC8.2C
1.5SMC39	SMCJ17A	SMCJ11CA	1.5SMC8.2CA
1.5SMC39A	SMCJ17AS-GT3	SMCJ11CA-SA-GT3	1.5SMC82
1.5SMC39C	SMCJ17AS-GT7	SMCJ11CA-SA-GT3R	1.5SMC82A
1.5SMC39CA	SMCJ17C	SMCJ12	1.5SMC82C
1.5SMC400	SMCJ17CA	SMCJ120	1.5SMC82CA
1.5SMC400A	SMCJ17CA-23-RG71	SMCJ120A	1.5SMC9.1
1.5SMC400C	SMCJ17CA-23-TR71	SMCJ120A-L	1.5SMC9.1A
1.5SMC400CA	SMCJ17CAS-GT3	SMCJ120C	1.5SMC9.1C
1.5SMC400CA-54T7	SMCJ17CAS-GT7	SMCJ120CA	1.5SMC9.1CA
1.5SMC43	SMCJ18	SMCJ12A	1.5SMC91
1.5SMC43A	SMCJ180	SMCJ12C	1.5SMC91A
1.5SMC43C	SMCJ180A	SMCJ12CA	1.5SMC91C
1.5SMC43CA	SMCJ180C	SMCJ12CA-ER	1.5SMC91CA
1.5SMC440	SMCJ180CA	SMCJ12CA-N	1.5SMCJ18CA-23-TR7
1.5SMC440A	SMCJ18A	SMCJ13	3.0SMC20A
1.5SMC440C	SMCJ18A-23-RG71	SMCJ130	3.0SMC20A-HM
1.5SMC440CA	SMCJ18A-23-TR71	SMCJ130A	3.0SMC24A
1.5SMC47	SMCJ18AS-GT3	SMCJ130A-AE	3.0SMC28A
1.5SMC47A	SMCJ18AS-GT7	SMCJ130C	3.0SMC30A
1.5SMC47C	SMCJ18C	SMCJ130CA	3.0SMC33A
1.5SMC47CA	SMCJ18CA	SMCJ13A	3.0SMCJ10A-SA-GT3
1.5SMC480	SMCJ18CA-23-TR71	SMCJ13A-23-TR71	3.0SMCJ10A-SA-GT3R
1.5SMC480A	SMCJ18CA-GT3	SMCJ13C	3.0SMCJ120CA-GT3
1.5SMC480C	SMCJ18CA-GT3R	SMCJ13CA	3.0SMCJ120CA-GT3R
1.5SMC480CA	SMCJ18CA-SA-GT3	SMCJ14	3.0SMCJ12A-GT3
1.5SMC51	SMCJ18CA-SA-GT3R	SMCJ14A	3.0SMCJ12A-GT3R
1.5SMC510	SMCJ18CAS-GT3	SMCJ14A-TN	3.0SMCJ12CA-GT3

1.5SMC510A	SMCJ18CAS-GT7	SMCJ14C	3.0SMCJ12CA-GT3R
1.5SMC510C	SMCJ20	SMCJ14CA	3.0SMCJ13CA-23-TR
1.5SMC510CA	SMCJ200	SMCJ15	3.0SMCJ13CA-SA-GT3
1.5SMC51A	SMCJ200A	SMCJ150	3.0SMCJ13CA-SAGT3R
1.5SMC51C	SMCJ200A-SF	SMCJ150A	3.0SMCJ150CA-GRGT3
1.5SMC51CA	SMCJ200C	SMCJ150C	3.0SMCJ150CASGRGT3
1.5SMC530	SMCJ200CA	SMCJ150CA	3.0SMCJ150CASGRGT7
1.5SMC530A	SMCJ200CA-SF	SMCJ150CA-SA-GT3	3.0SMCJ15A-GT3
1.5SMC530C	SMCJ20A	SMCJ15A	3.0SMCJ15A-GT3R
1.5SMC530CA	SMCJ20A-TN	SMCJ15C	3.0SMCJ15CA-GR-GT3
1.5SMC540	SMCJ20C	SMCJ15CA	3.0SMCJ15CA-GRGT3R
1.5SMC540A	SMCJ20CA	SMCJ15CA-ZG	3.0SMCJ15CA-GT3
1.5SMC540C	SMCJ20CA-23-TR71	SMCJ16	3.0SMCJ15CA-GT3R
1.5SMC540CA	SMCJ22	SMCJ160	3.0SMCJ15CAS-GRGT3
1.5SMC550	SMCJ220	SMCJ160A	3.0SMCJ15CAS-GRGT7
1.5SMC550A	SMCJ220A	SMCJ160C	3.0SMCJ16A-GT3
1.5SMC550C	SMCJ220C	SMCJ160CA	3.0SMCJ16A-GT3R
1.5SMC550CA	SMCJ220CA	SMCJ16A	3.0SMCJ16CA-GR-GT3
1.5SMC56	SMCJ22A	SMCJ16C	3.0SMCJ16CA-GRGT3R
1.5SMC56A	SMCJ22C	SMCJ16CA	3.0SMCJ16CA-GT3
1.5SMC56C	SMCJ22CA	SMCJ17	3.0SMCJ16CA-GT3R
1.5SMC56CA	SMCJ24	SMCJ170	3.0SMCJ17CA-54T7
1.5SMC6.8	SMCJ24A	SMCJ170A	3.0SMCJ18CA-GR-GT3
1.5SMC6.8A	SMCJ24A-23-TR71	SMCJ170C	3.0SMCJ18CA-GRGT3R
1.5SMC6.8C	SMCJ24C	SMDJ22	3.0SMCJ18CA-GRGT7R
1.5SMC6.8CA	SMCJ24CA	SMDJ220A	3.0SMCJ18CAS-GRGT3
1.5SMC600A	SMCJ24CA-23-TR71	SMDJ220CA	3.0SMCJ18CAS-GRGT7
1.5SMC600CA	SMCJ24CA-GR-GT3	SMDJ22A	3.0SMCJ20CA-GR-GT3
1.5SMC62	SMCJ24CA-GR-GT3R	SMDJ22A-T7	3.0SMCJ20CA-GRGT3R
1.5SMC62A	SMCJ24CAS-GR-GT3	SMDJ22C	3.0SMCJ20CA-GRGT7R
1.5SMC62A-N	SMCJ24CAS-GR-GT7	SMDJ22CA	3.0SMCJ20CA-GT3
1.5SMC62C	SMCJ250	SMDJ22CA-T7	3.0SMCJ20CA-GT3R
1.5SMC62CA	SMCJ250A	SMDJ24	3.0SMCJ20CAS-GRGT3
1.5SMC68	SMCJ250C	SMDJ24A	3.0SMCJ20CAS-GRGT7
1.5SMC68A	SMCJ250CA	SMDJ24A-T7	3.0SMCJ22A-GT3

1.5SMC68A-BW	SMCJ26	SMDJ24C	3.0SMCJ22A-GT3R
1.5SMC68A-N	SMCJ26A	SMDJ24CA	3.0SMCJ24A-GT3
4.0SMDJ13A	SMCJ26C	SMDJ24CA-T7	3.0SMCJ24A-GT3R
4.0SMDJ14A	SMCJ26CA	SMDJ250A	3.0SMCJ24A-SA-GT3
4.0SMDJ15A	SMCJ26CA-SA-GT3	SMDJ250CA	3.0SMCJ24A-SA-GT3R
4.0SMDJ18A	SMCJ26CA-SA-GT3R	SMDJ26	3.0SMCJ24CA-GT3
4.0SMDJ20A	SMCJ28	SMDJ26A	3.0SMCJ24CA-GT3R
4.0SMDJ20A-HM	SMCJ28A	SMDJ26A-T7	3.0SMCJ24CA-SA-GT3
4.0SMDJ24A	SMCJ28C	SMDJ26C	3.0SMCJ24CA-SA-GT7
4.0SMDJ24A-HM	SMCJ28CA	SMDJ26CA	3.0SMCJ24CA-SAGT3R
4.0SMDJ400CA-OP	SMCJ30	SMDJ26CA-T7	3.0SMCJ28A-GT3
5.0SMDJ100A	SMCJ300	SMDJ28	3.0SMCJ28A-GT3R
5.0SMDJ100A-T7	SMCJ300A	SMDJ28A	3.0SMCJ28CA-GR-GT3
5.0SMDJ100CA	SMCJ300C	SMDJ28A-T7	3.0SMCJ28CA-GRGT3R
5.0SMDJ100CA-T7	SMCJ300CA	SMDJ28C	3.0SMCJ28CA-GRGT7R
5.0SMDJ10AS	SMCJ30A	SMDJ28CA	3.0SMCJ28CAS-GRGT3
5.0SMDJ10CAS	SMCJ30A-23-TR71	SMDJ28CA-T7	3.0SMCJ28CAS-GRGT7
5.0SMDJ110A	SMCJ30C	SMDJ30	3.0SMCJ30A-GT3
5.0SMDJ110A-T7	SMCJ30CA	SMDJ300A	3.0SMCJ30A-GT3R
5.0SMDJ110CA	SMCJ33	SMDJ300CA	3.0SMCJ33A-GT3
5.0SMDJ110CA-T7	SMCJ33A	SMDJ30A	3.0SMCJ33A-GT3R
5.0SMDJ11AS	SMCJ33A-ZTE	SMDJ30A-T7	3.0SMCJ33CA-54T7
5.0SMDJ11CAS	SMCJ33C	SMDJ30C	3.0SMCJ33CA-GR-GT3
5.0SMDJ120A	SMCJ33CA	SMDJ30CA	3.0SMCJ33CA-GT3
5.0SMDJ120A-T7	SMCJ350	SMDJ30CA-T7	3.0SMCJ33CA-GT3R
5.0SMDJ120CA	SMCJ350A	SMDJ33	3.0SMCJ33CAS-GRGT3
5.0SMDJ120CA-T7	SMCJ350A-SCH	SMDJ33A	3.0SMCJ33CAS-GRGT7
5.0SMDJ12A	SMCJ350C	SMDJ33A-T7	3.0SMCJ36A-GT3
5.0SMDJ12A-T7	SMCJ350CA	SMDJ33C	3.0SMCJ36A-GT3R
5.0SMDJ12A-TN	SMCJ36	SMDJ33CA	3.0SMCJ36CA-GT3
5.0SMDJ12AS	SMCJ36A	SMDJ33CA-T7	3.0SMCJ36CA-GT3R
5.0SMDJ12AS-TN	SMCJ36C	SMDJ350A	3.0SMCJ40CA-GR-GT3
5.0SMDJ12CA	SMCJ36CA	SMDJ350CA	3.0SMCJ40CA-GRGT3R
5.0SMDJ12CA-T7	SMCJ36CA-N	SMDJ36	3.0SMCJ40CA-GT3
5.0SMDJ12CAS	SMCJ40	SMDJ36A	3.0SMCJ40CA-GT3R
5.0SMDJ130A	SMCJ400	SMDJ36A-T7	3.0SMCJ43A-GT3
5.0SMDJ130A-T7	SMCJ400A	SMDJ36C	3.0SMCJ43A-GT3R
5.0SMDJ130CA	SMCJ400C	SMDJ36CA	3.0SMCJ43A-SA-GT3
5.0SMDJ130CA-T7	SMCJ400CA	SMDJ36CA-T7	3.0SMCJ43A-SA-GT3R

5.0SMDJ13A	SMCJ40A	SMDJ40	3.0SMCJ43A-SA-GT7
5.0SMDJ13A-T7	SMCJ40AS-GT3	SMDJ400A	3.0SMCJ43CA-SA-GT3
5.0SMDJ13AS	SMCJ40AS-GT7	SMDJ400CA	3.0SMCJ43CA-SA-GT7
5.0SMDJ13CA	SMCJ40C	SMDJ40A	3.0SMCJ43CA-SAGT3R
5.0SMDJ13CA-T7	SMCJ40CA	SMDJ40A-T7	3.0SMCJ45A-GT3
5.0SMDJ13CAS	SMCJ40CA-23-TR71	SMDJ40C	3.0SMCJ45A-GT3R
5.0SMDJ140A	SMCJ40CA-SA-GT3	SMDJ40CA	3.0SMCJ48A-GT3
5.0SMDJ140A-T7	SMCJ40CA-SA-GT3R	SMDJ40CA-T7	3.0SMCJ48A-GT3R
5.0SMDJ140CA	SMCJ40CAS-GT3	SMDJ43	3.0SMCJ48A-SA-GT3
5.0SMDJ140CA-T7	SMCJ40CAS-GT7	SMDJ43A	3.0SMCJ48A-SA-GT3R
5.0SMDJ14A	SMCJ43A	SMDJ43A-T7	3.0SMCJ48CA-GR-GT3
5.0SMDJ14A-A	SMCJ43CA	SMDJ43C	3.0SMCJ48CA-GRGT3R
5.0SMDJ14A-T7	SMCJ43CA-SA-GT3	SMDJ43CA	3.0SMCJ48CA-SA-GT3
5.0SMDJ14AS	SMCJ43CA-SA-GT3R	SMDJ43CA-T7	3.0SMCJ48CA-SAGT3R
5.0SMDJ14CA	SMCJ440	SMDJ440A	3.0SMCJ48CAS-GRGT3
5.0SMDJ14CA-T7	SMCJ440A	SMDJ440CA	3.0SMCJ48CAS-GRGT7
5.0SMDJ14CAS	SMCJ440C	SMDJ45	3.0SMCJ5.0A-GT3
5.0SMDJ150A	SMCJ440CA	SMDJ45A	3.0SMCJ5.0A-GT3R
5.0SMDJ150A-T7	SMCJ45	SMDJ45A-T7	3.0SMCJ5.0CA-23-TR
5.0SMDJ150CA	SMCJ45A	SMDJ45C	3.0SMCJ5.0CA-GRGT3
5.0SMDJ150CA-T7	SMCJ45C	SMDJ45CA	3.0SMCJ5.0CA-GRGT7
5.0SMDJ15A	SMCJ45CA	SMDJ45CA-T7	3.0SMCJ5.0CASGRGT3
5.0SMDJ15A-T7	SMCJ48	SMDJ48	3.0SMCJ5.0CASGRGT7
5.0SMDJ15AS	SMCJ48A	SMDJ48A	3.0SMCJ51A-23-RG71
5.0SMDJ15CA	SMCJ48A-23-TR71	SMDJ48A-T7	3.0SMCJ51A-GT3
5.0SMDJ15CA-T7	SMCJ48AS-GT3	SMDJ48C	3.0SMCJ51A-GT3R
5.0SMDJ15CAS	SMCJ48AS-GT7	SMDJ48CA	3.0SMCJ58CA
5.0SMDJ160A	SMCJ48C	SMDJ48CA-T7	3.0SMCJ6.5A-GT3
5.0SMDJ160A-T7	SMCJ48CA	SMDJ5.0	3.0SMCJ6.5A-GT3R
5.0SMDJ160CA	SMCJ48CAS-GT3	SMDJ5.0A	3.0SMCJ60CA
5.0SMDJ160CA-T7	SMCJ48CAS-GT7	SMDJ5.0A-T7	3.0SMCJ60CA-GT3
5.0SMDJ16A	SMCJ5.0	SMDJ5.0C	3.0SMCJ60CA-GT3R
5.0SMDJ16A-T7	SMCJ5.0A	SMDJ5.0CA	3.0SMCJ7.0CA-GT3
5.0SMDJ16AS	SMCJ5.0A-GT3	SMDJ5.0CA-T7	3.0SMCJ7.0CA-GT3R
5.0SMDJ16CA	SMCJ5.0A-GT3R	SMDJ51	3.0SMCJ7.0CA-SAGT3
5.0SMDJ16CA-T7	SMCJ5.0A-SA-GT3	SMDJ51A	3.0SMCJ7.5A-GT3
5.0SMDJ16CAS	SMCJ5.0A-SA-GT3R	SMDJ51A-T7	3.0SMCJ7.5A-GT3R
5.0SMDJ170A	SMCJ5.0A-T7	SMDJ51C	3.0SMCJ70A-SA-GT3
5.0SMDJ170A-T7	SMCJ5.0AS-GT3	SMDJ51CA	3.0SMCJ70A-SA-GT3R
5.0SMDJ170CA	SMCJ5.0AS-GT7	SMDJ51CA-T7	3.0SMCJ70CA

5.0SMDJ170CA-T7	SMCJ5.0C	SMDJ54	3.0SMCJ70CA-SA-GT3
5.0SMDJ17A	SMCJ5.0CA	SMDJ54A	3.0SMCJ70CA-SAGT3R
5.0SMDJ17A-T7	SMCJ5.0CAS-GT3	SMDJ54A-T7	3.0SMCJ75CA-GT3
5.0SMDJ17AS	SMCJ5.0CAS-GT7	SMDJ54C	3.0SMCJ75CA-GT3R
5.0SMDJ17CA	SMCJ51	SMDJ54CA	3.0SMCJ78A-GT3
5.0SMDJ17CA-HW	SMCJ51A	SMDJ54CA-T7	3.0SMCJ78A-GT3R
5.0SMDJ17CA-T7	SMCJ51C	SMDJ58	3.0SMCJ7CA-SA-GT3R
5.0SMDJ17CAS	SMCJ51CA	SMDJ58A	3.0SMCJ8.5CA-23-TR
5.0SMDJ18A	SMCJ51CA-23-TR71	SMDJ58A-T7	3.0SMCJ8.5CA-GRGT3
5.0SMDJ18A-T7	SMCJ54	SMDJ58C	3.0SMCJ8.5CASGRGT3
5.0SMDJ18AS	SMCJ54A	SMDJ58CA	3.0SMCJ8.5CASGRGT7
5.0SMDJ18CA	SMCJ54A-23-TR71	SMDJ58CA-N	4.0SMDJ10A
5.0SMDJ18CA-T7	SMCJ54C	SMDJ58CA-T7	4.0SMDJ11A
5.0SMDJ18CAS	SMCJ54CA	SMDJ6.0	4.0SMDJ12A
5.0SMDJ20A	SMCJ58	SMDJ6.0A	SMCJ78CA
5.0SMDJ20A-T7	SMCJ58A	SMDJ6.0A-T7	SMCJ78CA-N
5.0SMDJ20AS	SMCJ58A-T7	SMDJ6.0C	SMCJ8.0
5.0SMDJ20CA	SMCJ58C	SMDJ6.0CA	SMCJ8.0A
5.0SMDJ20CA-T7	SMCJ58CA	SMDJ6.0CA-HW1	SMCJ8.0C
5.0SMDJ20CAS	SMCJ6.0	SMDJ6.0CA-N	SMCJ8.0CA
5.0SMDJ22A	SMCJ6.0A	SMDJ6.0CA-T7	SMCJ8.0CA-ER
5.0SMDJ22A-T7	SMCJ6.0C	SMDJ6.5	SMCJ8.5
5.0SMDJ22AS	SMCJ6.0CA	SMDJ6.5A	SMCJ8.5A
5.0SMDJ22CA	SMCJ6.0CA-23-TR71	SMDJ6.5A-T7	SMCJ8.5C
5.0SMDJ22CA-T7	SMCJ6.5	SMDJ6.5C	SMCJ8.5CA
5.0SMDJ22CAS	SMCJ6.5A	SMDJ6.5CA	SMCJ8.5CA-23-RG71
5.0SMDJ24A	SMCJ6.5A-23-TR71	SMDJ6.5CA-T7	SMCJ85
5.0SMDJ24A-T7	SMCJ6.5A-ER	SMDJ60	SMCJ85A
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5.0SMDJ24CA	SMCJ6.5AS-GT3	SMDJ60A-T7	SMCJ85CA
5.0SMDJ24CA-ER	SMCJ6.5AS-GT7	SMDJ60C	SMCJ85CA-23-TR71
5.0SMDJ24CA-T7	SMCJ6.5C	SMDJ60CA	SMCJ9.0
5.0SMDJ24CAS	SMCJ6.5CA	SMDJ60CA-T7	SMCJ9.0A
5.0SMDJ26A	SMCJ6.5CA-23-TR71	SMDJ64	SMCJ9.0C
5.0SMDJ26A-T7	SMCJ6.5CA-ER	SMDJ64A	SMCJ9.0CA
5.0SMDJ26AS	SMCJ6.5CA-ER1	SMDJ64A-HW	SMCJ90
5.0SMDJ26CA	SMCJ6.5CA-ER2	SMDJ64A-T7	SMCJ90A
5.0SMDJ26CA-T7	SMCJ6.5CAS-GT3	SMDJ64C	SMCJ90C
5.0SMDJ26CAS	SMCJ6.5CAS-GT7	SMDJ64CA	SMCJ90CA
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5.0SMDJ28A-T7	SMCJ60A	SMDJ7.0	SMDJ100

5.0SMDJ28AS	SMCJ60AS-GT3	SMDJ7.0A	SMDJ100A
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5.0SMDJ28CA-T7	SMCJ60C	SMDJ7.0C	SMDJ85CA
5.0SMDJ28CAS	SMCJ60CA	SMDJ7.0CA	SMDJ85CA-T7
5.0SMDJ30A	SMCJ60CA-23-RG71	SMDJ7.0CA-T7	SMDJ9.0
5.0SMDJ30A-T7	SMCJ60CA-ER	SMDJ7.5	SMDJ9.0A
5.0SMDJ30AS	SMCJ60CAS-GT3	SMDJ7.5A	SMDJ9.0A-T7
5.0SMDJ30CA	SMCJ60CAS-GT7	SMDJ7.5A-T7	SMDJ9.0C
5.0SMDJ30CA-T7	SMCJ64	SMDJ7.5C	SMDJ9.0CA
5.0SMDJ30CAS	SMCJ64A	SMDJ7.5CA	SMDJ9.0CA-T7
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5.0SMDJ33A-T7	SMCJ64A-ZTE	SMDJ70	SMDJ90A
5.0SMDJ33AS	SMCJ64AS-GT3	SMDJ70A	SMDJ90A-T7
5.0SMDJ33CA	SMCJ64AS-GT7	SMDJ70A-T7	SMDJ90C
5.0SMDJ33CA-T7	SMCJ64C	SMDJ70C	SMDJ90CA
5.0SMDJ33CAS	SMCJ64CA	SMDJ70CA	SMDJ90CA-T7
5.0SMDJ36A	SMCJ64CA-ER	SMDJ70CA-N	SMDJ8.0CA
5.0SMDJ36A-T7	SMCJ64CA-N	SMDJ70CA-T7	SMDJ8.0CA-T7
5.0SMDJ36AS	SMCJ64CAS-GT3	SMDJ75	SMDJ8.5
5.0SMDJ36CA	SMCJ64CAS-GT7	SMDJ75A	SMDJ8.5A
5.0SMDJ36CA-T7	SMCJ7.0	SMDJ75A-T7	SMDJ8.5A-T7
5.0SMDJ36CAS	SMCJ7.0A	SMDJ75C	SMDJ8.5C
5.0SMDJ400CA-OPPO	SMCJ7.0A-23-TR71	SMDJ75CA	SMDJ8.5CA
5.0SMDJ40A	SMCJ7.0C	SMDJ75CA-ER	SMDJ8.5CA-T7
5.0SMDJ40A-54T7	SMCJ7.0CA	SMDJ75CA-T7	SMDJ85
5.0SMDJ40A-T7	SMCJ7.0CA-23-RG71	SMDJ78	SMDJ85A
5.0SMDJ40AS	SMCJ7.0CA-23-TR71	SMDJ78A	SMDJ85A-T7
5.0SMDJ40CA	SMCJ7.5	SMDJ78A-T7	SMCJ75CA-23-TR71
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5.0SMDJ40CAS	SMCJ7.5C	SMDJ78CA	SMCJ78
5.0SMDJ43A	SMCJ7.5CA	SMDJ78CA-T7	SMCJ78A
5.0SMDJ43A-T7	SMCJ70	SMDJ8.0	SMCJ78C
5.0SMDJ43AS	SMCJ70A	SMDJ8.0A	5.0SMDJ45CAS
5.0SMDJ43CA	SMCJ70A-T7	SMDJ8.0A-T7	5.0SMDJ48A
5.0SMDJ43CA-T7	SMCJ70C	SMDJ8.0C	5.0SMDJ48A-T7
5.0SMDJ43CAS	SMCJ70CA	5.0SMDJ45AS	5.0SMDJ48AS
5.0SMDJ45A	SMCJ75	5.0SMDJ45CA	5.0SMDJ48CA
5.0SMDJ45A-T7	SMCJ75A	5.0SMDJ45CA-T7	5.0SMDJ48CA-T7
SMCJ75CA	SMCJ75A-ER	SMCJ75C	5.0SMDJ48CAS
			5.0SMDJ51A