

Document Receipt Acknowledgement
Date:
Section:
Name:

**muRata**

INNOVATOR IN ELECTRONICS

Document Number: HEMCG2-2560

Date: Aug, 3, 2018

**Attention:**

**TTI ELECTRONICS ASIA PTE LTD**

## **4M Change Notice**

Factory Addition: Wuxi Murata Electronics Co., Ltd. (WME) for Chip Monolithic Ceramic Capacitors

Dear. Valued Customer

Thank you very much for your great and continued support for business with Murata. This is the official notification that some of our products' 4M Change will be proceeded as detailed below. Please review this, and indicate your feedback for this Notice in writing by Feedback Due. Your understanding and support are highly appreciated.

### **1. Product Type, Changes, and Customer/Murata/Alternative Part Numbers:**

Product Type: GRM03(0201) / 15(0402) series  
GRM18(0603) / 21(0805) / 31(1206) series (1uF and more)  
\*High Dielectric Constant Type / DC100V and less.

Changes: Factory addition of Wuxi Murata Electronics Co., Ltd. (WME)  
Please refer to the attached documents for detailed Part Numbers' information.  
As for Wuxi Murata's products, they will be labeled as "MADE IN CHINA".

### **2. Current and New Factory, Reasons/Background:**

In response to the MLCC demand increase from overseas market, we would like to restructure our factory organization and production. We are going to respond to this challenge by expanding production at Wuxi Murata.

### **3. Products Before and After the Change:**

There are no changes to the products' design, quality, and specifications as Murata continuously uses the same production process and quality control system.

### **4. Change Schedule:**

WME started its first production of GRM15(0402) in 2006. Since then, we have gradually been expanding WME's production line-up. We will ship these new products from WME sequentially after your acceptance.

### **5. Others:**

We would like to confirm your approval of new products from WME even though you may have already approved WME in the past.

### **6. Feedback Due:**

**3, Feb., 2019**

Please indicate your feedback to Murata in writing by the Feedback Due, whether you approve this Notice or need further discussion and/or adjustments with Murata.

### **7. Contact Window:**

Should you have any questions or concerns, please contact Murata Sales, Representative, or Distributor in your area.

Truly Yours. Thank you.

Fukui Murata MFG. Co., Ltd.  
(PD Section/Title Description)Product Engineering Department Capacitor Division  
(Name)S. Tsubota



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## Confirmation Letter

**TTI ELECTRONICS ASIA PTE LTD**

Fukui Murata MFG. Co., Ltd.

### **4M Change Confirmation**

4M Change detailed below is  Subject to Further Discussion.  Accepted.

Product Type: Factory Addition: Wuxi Murata Electronics Co., Ltd. (WME) for Chip Monolithic Ceramic Capacitors

GRM18(0603) / 21(0805) / 31(1206) series (1uF and more)

\*High Dielectric Constant Type / DC100V and less

Changes: Factory addition of Wuxi Murata Electronics Co., Ltd. (WME)

Comments, Questions, Requests, etc.

Signature

Date: (MM, DD, YYYY)

\_\_\_\_\_  
Title:

\_\_\_\_\_  
Name:

\_\_\_\_\_

### Sales History

Please find the list below for the target part numbers which are registered as yours in Murata. (Customer Part Number)  
Regardless of the list below, all part numbers shall be the target as far as they are categorized into the Product Type indicated in the Document.  
Alternative Part Number: Size, Electrical Characteristics could be identical to or different from the current product.

Account Number	Customer Name	Customer Part Number	Murata Part Number	Alternative Part Number	Sales Quantity (Unit: pieces)						Memo
					2013FY	2014FY	2015FY	2016FY	2017FY	2018FY till Jun.	
K1561	TTI ELECTRONICS ASIA PTE LTD	0A04C001UFG0P	GRM155R61A104KA01D	-	0	0	0	0	1,970,000	0	
K1561	TTI ELECTRONICS ASIA PTE LTD	0A04C4764701R	GRM31CR60J476ME19L	-	0	0	1,220,000	200,000	600,000	0	
K1561	TTI ELECTRONICS ASIA PTE LTD	118815800	GRM155R71C104KA88D	-	17,000,000	4,000,000	15,000,000	0	27,000,000	15,000,000	
K1561	TTI ELECTRONICS ASIA PTE LTD	20011027_50R1F	GRM155R60J105KE19D	-	0	0	0	1,000,000	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033B11A103KA01D	GRM033B11A103KA01D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033B11E101KA01D	GRM033B11E101KA01D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033B11E102KA01D	GRM033B11E102KA01D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033B11E221KA01D	GRM033B11E221KA01D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033B11E331KA01D	GRM033B11E331KA01D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033B30J104KE18D	GRM033B30J104KE18D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033C80G104KE19D	GRM033C80G104KE19D	-	0	255,000	795,000	120,000	615,000	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033C80J104KE15D	GRM033C80J104KE15D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R60J103KA01D	GRM033R60J103KA01D	-	0	1,290,000	30,000	0	30,000	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R60J104KE19D	GRM033R60J104KE19D	-	2,010,000	3,000,000	2,520,000	12,690,000	10,320,000	2,010,000	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R60J104ME19D	GRM033R60J104ME19D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R60J225ME47D	GRM033R60J225ME47D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R61A103JA01D	GRM033R61A103JA01D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R61A103KA01D	GRM033R61A103KA01D	-	0	0	0	135,000	795,000	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R61A104KE15D	GRM033R61A104KE15D	-	3,060,000	0	2,715,000	8,745,000	8,595,000	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R61A104ME15D	GRM033R61A104ME15D	-	1,095,000	0	15,000	15,000	30,000	15,000	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R61A222KA01D	GRM033R61A222KA01D	-	0	0	0	0	60,000	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R61A225KE47D	GRM033R61A225KE47D	-	0	0	0	0	0	30,000	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R61A225ME47D	GRM033R61A225ME47D	-	0	0	0	105,000	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R61A332KA01D	GRM033R61A332KA01D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R61A472KA01D	GRM033R61A472KA01D	-	0	0	30,000	0	15,000	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R61A562KA01D	GRM033R61A562KA01D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R61A682KA01D	GRM033R61A682KA01D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R61A822KA01D	GRM033R61A822KA01D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R61C103KA12D	GRM033R61C103KA12D	-	0	0	0	390,000	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R61E102KA01D	GRM033R61E102KA01D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R61E103KA12D	GRM033R61E103KA12D	-	0	0	0	60,000	255,000	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R61E331KA01D	GRM033R61E331KA01D	-	0	210,000	720,000	525,000	75,000	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R61E472KA12D	GRM033R61E472KA12D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R70J103KA01D	GRM033R70J103KA01D	-	0	480,000	225,000	0	15,000	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R70J472KA01D	GRM033R70J472KA01D	-	0	0	0	30,000	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71A103KA01D	GRM033R71A103KA01D	-	0	0	0	360,000	2,295,000	315,000	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71A182KA01D	GRM033R71A182KA01D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71A222KA01D	GRM033R71A222KA01D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71A332KA01D	GRM033R71A332KA01D	-	0	0	0	15,000	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71A472KA01D	GRM033R71A472KA01D	-	0	30,000	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71A562KA01D	GRM033R71A562KA01D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71A682KA01D	GRM033R71A682KA01D	-	0	0	0	0	120,000	465,000	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71C101KA01D	GRM033R71C101KA01D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71C102KA01D	GRM033R71C102KA01D	-	0	0	15,000	495,000	45,000	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71C152KA01D	GRM033R71C152KA01D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71C181KA01D	GRM033R71C181KA01D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71C222KA88D	GRM033R71C222KA88D	-	0	45,000	195,000	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71C271KA01D	GRM033R71C271KA01D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71C272KA88D	GRM033R71C272KA88D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71C331KA01D	GRM033R71C331KA01D	-	15,000	0	15,000	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71C332KA88D	GRM033R71C332KA88D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71C471KA01D	GRM033R71C471KA01D	-	0	0	15,000	0	45,000	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71C821KA01D	GRM033R71C821KA01D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71E101KA01D	GRM033R71E101KA01D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71E102KA01D	GRM033R71E102KA01D	-	0	0	315,000	255,000	420,000	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71E151KA01D	GRM033R71E151KA01D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71E152KA01D	GRM033R71E152KA01D	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71E221KA01D	GRM033R71E221KA01D	-	0	0	0	0	0	0	

K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71E222KA12D	GRM033R71E222KA12D	-	0	0	0	105,000	105,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71E271KA01D	GRM033R71E271KA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71E332KA12D	GRM033R71E332KA12D	-	0	0	0	15,000	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71E391KA01D	GRM033R71E391KA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71E471KA01D	GRM033R71E471KA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71E561KA01D	GRM033R71E561KA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71E681KA01D	GRM033R71E681KA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71H101KA12D	GRM033R71H101KA12D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71H102KA12D	GRM033R71H102KA12D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71H151KA12D	GRM033R71H151KA12D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71H221KA12D	GRM033R71H221KA12D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71H331KA12D	GRM033R71H331KA12D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71H471KA12D	GRM033R71H471KA12D	-	0	0	0	0	210,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM033R71H681KA12D	GRM033R71H681KA12D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155B11A104KA01D	GRM155B11A104KA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155B11C103KA01D	GRM155B11C103KA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155B11C223KA01D	GRM155B11C223KA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155B11C393KA01D	GRM155B11C393KA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155B11C473KA01D	GRM155B11C473KA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155B11E103KA01D	GRM155B11E103KA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155B11H102KA01D	GRM155B11H102KA01D	-	0	0	0	260,000	1,720,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155B11H152KA01D	GRM155B11H152KA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155B11H221KA01D	GRM155B11H221KA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155B11H222KA01D	GRM155B11H222KA01D	-	0	0	0	20,000	50,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155B11H332JA01D	GRM155B11H332JA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155B11H332KA01D	GRM155B11H332KA01D	-	370,000	800,000	470,000	550,000	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155B11H471KA01D	GRM155B11H471KA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155B11H472KA01D	GRM155B11H472KA01D	-	0	0	0	30,000	40,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155B11H681KA01D	GRM155B11H681KA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155B30J225KE95D	GRM155B30J225KE95D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155B31A105KE15D	GRM155B31A105KE15D	-	0	0	0	190,000	1,030,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155B31C104KA87D	GRM155B31C104KA87D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155B31C683KA87D	GRM155B31C683KA87D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155B31E104KA87D	GRM155B31E104KA87D	-	680,000	990,000	0	10,000	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155B31E333KA87D	GRM155B31E333KA87D	-	0	0	0	0	60,000	10,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155B31E473KA87D	GRM155B31E473KA87D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155C80G105KE19D	GRM155C80G105KE19D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155C80J105KE15D	GRM155C80J105KE15D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155C80J106ME11D	GRM155C80J106ME11D	-	0	0	0	60,000	20,000	90,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155C80J225KE95D	GRM155C80J225KE95D	-	0	0	0	10,000	10,000	20,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R11C104KA88D	GRM155R11C104KA88D	-	2,260,000	3,480,000	790,000	1,090,000	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R11E223KA61D	GRM155R11E223KA61D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R11H102KA01D	GRM155R11H102KA01D	-	2,840,000	4,980,000	2,000,000	2,370,000	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R11H221KA01D	GRM155R11H221KA01D	-	0	30,000	30,000	90,000	10,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R60E106ME16D	GRM155R60E106ME16D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R60G225ME15D	GRM155R60G225ME15D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R60G475ME47D	GRM155R60G475ME47D	-	0	0	0	20,000	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R60G475ME87D	GRM155R60G475ME87D	-	10,000	0	0	110,000	500,000	340,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R60J103KA01D	GRM155R60J103KA01D	-	0	0	0	2,130,000	660,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R60J105KE19D	GRM155R60J105KE19D	-	2,000,000	0	0	0	0	1,780,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R60J105ME19D	GRM155R60J105ME19D	-	0	0	0	0	30,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R60J106ME44D	GRM155R60J106ME44D	-	430,000	0	0	20,000	1,020,000	4,100,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R60J225KE95D	GRM155R60J225KE95D	-	0	10,000	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R60J225ME15D	GRM155R60J225ME15D	-	0	0	0	20,000	5,110,000	1,610,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R60J225ME95D	GRM155R60J225ME95D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R60J475KE96D	GRM155R60J475KE96D	-	0	0	0	580,000	600,000	2,320,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R60J475ME47D	GRM155R60J475ME47D	-	0	60,000	0	20,000	940,000	2,270,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R60J475ME87D	GRM155R60J475ME87D	-	50,000	0	200,000	1,280,000	1,300,000	13,000,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R61A104KA01D	GRM155R61A104KA01D	-	0	0	0	0	2,000,000	6,000,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R61A105KE15D	GRM155R61A105KE15D	-	2,000,000	0	0	500,000	15,330,000	1,140,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R61A105ME15D	GRM155R61A105ME15D	-	0	0	0	70,000	70,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R61A225KE95D	GRM155R61A225KE95D	-	0	0	0	0	170,000	350,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R61A225ME95D	GRM155R61A225ME95D	-	0	0	0	0	0	20,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R61A473KA01D	GRM155R61A473KA01D	-	0	0	0	60,000	20,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R61A563KA01D	GRM155R61A563KA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R61A683KA01D	GRM155R61A683KA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R61C103KA01D	GRM155R61C103KA01D	-	0	0	0	0	10,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R61C104JA88D	GRM155R61C104JA88D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R61C104KA88D	GRM155R61C104KA88D	-	0	20,000	0	750,000	5,050,000	800,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R61C273KA01D	GRM155R61C273KA01D	-	0	0	0	0	0	0

K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R61C333KA01D	GRM155R61C333KA01D	-	0	0	0	20,000	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R61C393KA01D	GRM155R61C393KA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R61C473KA01D	GRM155R61C473KA01D	-	0	0	60,000	70,000	120,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R61C563KA88D	GRM155R61C563KA88D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R61C683KA88D	GRM155R61C683KA88D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R61E104KA87D	GRM155R61E104KA87D	-	0	0	0	0	0	30,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R61E472KA01D	GRM155R61E472KA01D	-	0	0	0	0	10,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R70J104KA01D	GRM155R70J104KA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71A104KA01D	GRM155R71A104KA01D	-	0	2,000,000	0	100,000	300,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71A333KA01D	GRM155R71A333KA01D	-	0	0	200,000	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71A473KA01D	GRM155R71A473KA01D	-	0	0	0	920,000	90,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71C102KA01D	GRM155R71C102KA01D	-	0	0	0	0	10,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71C103KA01D	GRM155R71C103KA01D	-	0	200,000	200,000	800,000	2,200,000	2,000,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71C104JA88D	GRM155R71C104JA88D	-	0	0	0	1,880,000	8,330,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71C104KA88D	GRM155R71C104KA88D	-	7,000,000	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71C123KA01D	GRM155R71C123KA01D	-	0	0	20,000	80,000	140,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71C153KA01D	GRM155R71C153KA01D	-	0	0	0	0	0	20,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71C222KA01D	GRM155R71C222KA01D	-	0	10,000	20,000	10,000	80,000	20,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71C223JA01D	GRM155R71C223JA01D	-	0	0	0	0	20,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71C223KA01D	GRM155R71C223KA01D	-	0	0	0	0	70,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71C273KA01D	GRM155R71C273KA01D	-	0	0	0	0	20,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71C333KA01D	GRM155R71C333KA01D	-	0	0	0	40,000	10,000	40,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71C393KA01D	GRM155R71C393KA01D	-	0	0	0	0	40,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71C472KA01D	GRM155R71C472KA01D	-	0	0	0	40,000	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71C473KA01D	GRM155R71C473KA01D	-	0	0	600,000	0	60,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71C683KA88D	GRM155R71C683KA88D	-	0	0	0	0	20,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71C823KA88D	GRM155R71C823KA88D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71E103KA01D	GRM155R71E103KA01D	-	0	0	0	900,000	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71E153KA61D	GRM155R71E153KA61D	-	0	0	0	20,000	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71E222KA01D	GRM155R71E222KA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71E223KA61D	GRM155R71E223KA61D	-	0	0	0	0	40,000	20,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71E273KA88D	GRM155R71E273KA88D	-	0	0	0	0	20,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71E333KA88D	GRM155R71E333KA88D	-	0	0	0	0	0	10,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71E472KA01D	GRM155R71E472KA01D	-	20,000	0	0	10,000	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71E473KA88D	GRM155R71E473KA88D	-	0	0	0	0	80,000	1,300,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71E682KA01D	GRM155R71E682KA01D	-	0	0	0	60,000	220,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71E822KA01D	GRM155R71E822KA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71H102JA01D	GRM155R71H102JA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71H102KA01D	GRM155R71H102KA01D	-	0	0	0	250,000	1,720,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71H104KE14D	GRM155R71H104KE14D	-	0	0	100,000	0	0	260,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71H122KA01D	GRM155R71H122KA01D	-	0	0	0	0	10,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71H152KA01D	GRM155R71H152KA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71H182KA01D	GRM155R71H182KA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71H221KA01D	GRM155R71H221KA01D	-	0	0	0	0	30,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71H222KA01D	GRM155R71H222KA01D	-	0	0	0	0	0	30,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71H271KA01D	GRM155R71H271KA01D	-	0	0	10,000	20,000	30,000	10,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71H272KA01D	GRM155R71H272KA01D	-	0	0	60,000	30,000	60,000	100,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71H331KA01D	GRM155R71H331KA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71H332JA01D	GRM155R71H332JA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71H471KA01D	GRM155R71H471KA01D	-	4,000,000	0	0	0	500,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71H472KA01D	GRM155R71H472KA01D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71H561KA01D	GRM155R71H561KA01D	-	0	0	0	0	40,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71H681KA01D	GRM155R71H681KA01D	-	0	0	0	0	90,000	40,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM155R71H821KA01D	GRM155R71H821KA01D	-	0	0	0	10,000	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM188B30J106ME47D	GRM188B30J106ME47D	-	0	0	0	60,000	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM188B30J475KE18D	GRM188B30J475KE18D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM188B31A225KE33D	GRM188B31A225KE33D	-	24,000	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM188C80G106ME47D	GRM188C80G106ME47D	-	0	0	0	32,000	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM188C80G226MEA0D	GRM188C80G226MEA0D	-	0	4,000	20,000	48,000	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM188C80J226ME15D	GRM188C80J226ME15D	-	0	0	0	4,000	0	8,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM188R60G106ME47D	GRM188R60G106ME47D	-	0	0	0	4,000	8,000	4,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM188R60G226MEA0D	GRM188R60G226MEA0D	-	0	0	0	4,000	12,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM188R60J106KE47D	GRM188R60J106KE47D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM188R60J106ME47D	GRM188R60J106ME47D	-	0	0	0	4,400,000	3,000,000	1,400,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM188R60J106ME47J	GRM188R60J106ME47J	-	0	0	0	100,000	30,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM188R60J226MEA0D	GRM188R60J226MEA0D	-	0	0	0	28,000	112,000	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM188R60J475KE19D	GRM188R60J475KE19D	-	0	0	1,900,000	1,800,000	2,700,000	1,700,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM188R60J475ME19D	GRM188R60J475ME19D	-	0	4,000	4,000	84,000	52,000	220,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM188R60J476ME15D	GRM188R60J476ME15D	-	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM188R61A226ME15D	GRM188R61A226ME15D	-	0	0	0	0	0	0

K1782	TTI ELECTRONICS ASIA PTE LTD	GRM188R61A475KE15D	GRM188R61A475KE15D	-	0	0	0	144,000	1,120,000	696,000	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM188R61A475ME15D	GRM188R61A475ME15D	-	0	0	0	0	0	0	0
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM188R61C225KE15D	GRM188R61C225KE15D	-	0	0	0	160,000	600,000	120,000	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BB30J106KE18L	GRM21BB30J106KE18L	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BB31A106KE18L	GRM21BB31A106KE18L	-	0	0	0	231,000	282,000	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BB31C106KE15L	GRM21BB31C106KE15L	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BB31E106KA73L	GRM21BB31E106KA73L	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BB31E475KA75L	GRM21BB31E475KA75L	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BC80G476ME15L	GRM21BC80G476ME15L	-	0	0	0	21,000	753,000	1,110,000	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BC80J106KE19L	GRM21BC80J106KE19L	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BC80J226ME51L	GRM21BC80J226ME51L	-	0	9,000	0	24,000	135,000	15,000	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BC81C106KE15L	GRM21BC81C106KE15L	-	0	0	0	0	33,000	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BR60G476ME15L	GRM21BR60G476ME15L	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BR60J106KE19L	GRM21BR60J106KE19L	-	0	0	0	2,055,000	603,000	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BR60J106ME19L	GRM21BR60J106ME19L	-	0	0	0	174,000	72,000	180,000	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BR60J226ME39K	GRM21BR60J226ME39K	-	0	0	0	0	190,000	100,000	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BR60J226ME39L	GRM21BR60J226ME39L	-	0	0	0	120,000	717,000	306,000	1,704,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BR60J476ME15L	GRM21BR60J476ME15L	-	0	0	0	0	0	0	36,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BR61A106KE19L	GRM21BR61A106KE19L	-	0	0	0	993,000	3,708,000	2,406,000	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BR61A226ME51L	GRM21BR61A226ME51L	-	0	327,000	102,000	165,000	939,000	954,000	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BR61C106KE15L	GRM21BR61C106KE15L	-	0	0	0	1,605,000	2,007,000	306,000	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BR61C106ME15L	GRM21BR61C106ME15L	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BR61C475MA88L	GRM21BR61C475MA88L	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BR61E106KA73L	GRM21BR61E106KA73L	-	0	18,000	27,000	0	15,000	201,000	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BR61E106MA73L	GRM21BR61E106MA73L	-	0	0	0	0	6,000	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BR61E475KA12L	GRM21BR61E475KA12L	-	0	270,000	0	405,000	1,278,000	270,000	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BR61E475MA12L	GRM21BR61E475MA12L	-	0	0	0	183,000	102,000	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BR70J106KA73L	GRM21BR70J106KA73L	-	0	0	0	0	0	609,000	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BR71A106KA73L	GRM21BR71A106KA73L	-	0	0	0	0	324,000	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM21BR71A106MA73L	GRM21BR71A106MA73L	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM31CB30J476ME18L	GRM31CB30J476ME18L	-	0	0	10,000	6,000	6,000	2,000	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM31CB31A476KE15L	GRM31CB31A476KE15L	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM31CB31A476ME15L	GRM31CB31A476ME15L	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM31CB31C226ME15L	GRM31CB31C226ME15L	-	0	0	10,000	4,000	12,000	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM31CB31E106KA75L	GRM31CB31E106KA75L	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM31CB31E226ME15L	GRM31CB31E226ME15L	-	0	0	0	0	0	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM31CC80J476KE18L	GRM31CC80J476KE18L	-	0	0	0	0	22,000	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM31CC80J476ME18L	GRM31CC80J476ME18L	-	0	0	0	4,000	2,000	102,000	98,000
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM31CC81E106KE15L	GRM31CC81E106KE15L	-	0	0	0	14,000	12,000	14,000	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM31CR60J476ME19L	GRM31CR60J476ME19L	-	0	0	0	0	0	64,000	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM31CR61A226KE19L	GRM31CR61A226KE19L	-	0	2,000	0	12,000	8,000	2,000	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM31CR61A226ME19L	GRM31CR61A226ME19L	-	0	0	20,000	40,000	20,000	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM31CR61A476KE15L	GRM31CR61A476KE15L	-	0	0	0	4,000	32,000	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM31CR61A476ME15L	GRM31CR61A476ME15L	-	0	0	0	6,000	88,000	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM31CR61C226KE15L	GRM31CR61C226KE15L	-	0	0	0	260,000	578,000	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM31CR61C226ME15L	GRM31CR61C226ME15L	-	0	0	0	210,000	300,000	30,000	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM31CR61E106MA12L	GRM31CR61E106MA12L	-	0	0	0	0	150,000	0	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM31CR61E226KE15L	GRM31CR61E226KE15L	-	0	0	60,000	180,000	1,620,000	432,000	
K1782	TTI ELECTRONICS ASIA PTE LTD	GRM31CR6YA106KA12L	GRM31CR6YA106KA12L	-	0	0	0	0	32,000	4,000	



For Document Number:  
HEMCG2-2560

**Part Number List**

Please find the list below for the target part numbers which are registered as yours in Murata. (Customer Part Number)  
Regardless of the list below, all part numbers shall be the target as far as they are categorized into the Product Type indicated in the Document.

Alternative Part Number: Size, Electrical Characteristics could be identical to or different from the current product.

Customer Part Number	Murata Part Number	Alternative Part Number	Sales Quantity (Unit: pieces)					Memo
			2013FY	2014FY	2015FY	2016FY	2017FY	
0A04C001UFG0P	GRM155R61A104KA01D	-	0	0	0	0	1,970,000	0
0A04C4764701R	GRM31CR60J476ME19L	-	0	0	1,220,000	200,000	600,000	0
118815800	GRM155R71C104KA88D	-	17,000,000	4,000,000	15,000,000	0	27,000,000	15,000,000
20011027-50R1F	GRM155R60J105KE19D	-	0	0	0	1,000,000	0	0
GRM033B11A103KA01D	GRM033B11A103KA01D	-	0	0	0	0	0	0
GRM033B11E101KA01D	GRM033B11E101KA01D	-	0	0	0	0	0	0
GRM033B11E102KA01D	GRM033B11E102KA01D	-	0	0	0	0	0	0
GRM033B11E221KA01D	GRM033B11E221KA01D	-	0	0	0	0	0	0
GRM033B11E331KA01D	GRM033B11E331KA01D	-	0	0	0	0	0	0
GRM033B30J104KE18D	GRM033B30J104KE18D	-	0	0	0	0	0	0
GRM033C80G104KE19D	GRM033C80G104KE19D	-	0	255,000	795,000	120,000	615,000	0
GRM033C80J104KE15D	GRM033C80J104KE15D	-	0	0	0	0	0	0
GRM033R60J103KA01D	GRM033R60J103KA01D	-	0	1,290,000	30,000	0	30,000	0
GRM033R60J104KE19D	GRM033R60J104KE19D	-	2,010,000	3,000,000	2,520,000	12,690,000	10,320,000	2,010,000
GRM033R60J104ME19D	GRM033R60J104ME19D	-	0	0	0	0	0	0
GRM033R60J225ME47D	GRM033R60J225ME47D	-	0	0	0	0	0	0
GRM033R61A103JA01D	GRM033R61A103JA01D	-	0	0	0	0	0	0
GRM033R61A103KA01D	GRM033R61A103KA01D	-	0	0	0	135,000	795,000	0
GRM033R61A104KE15D	GRM033R61A104KE15D	-	3,060,000	0	2,715,000	8,745,000	8,595,000	0
GRM033R61A104ME15D	GRM033R61A104ME15D	-	1,095,000	0	15,000	15,000	30,000	15,000
GRM033R61A222KA01D	GRM033R61A222KA01D	-	0	0	0	0	60,000	0
GRM033R61A225KE47D	GRM033R61A225KE47D	-	0	0	0	0	0	30,000
GRM033R61A225ME47D	GRM033R61A225ME47D	-	0	0	0	105,000	0	0
GRM033R61A332KA01D	GRM033R61A332KA01D	-	0	0	0	0	0	0
GRM033R61A472KA01D	GRM033R61A472KA01D	-	0	0	30,000	0	15,000	0
GRM033R61A562KA01D	GRM033R61A562KA01D	-	0	0	0	0	0	0
GRM033R61A682KA01D	GRM033R61A682KA01D	-	0	0	0	0	0	0
GRM033R61A822KA01D	GRM033R61A822KA01D	-	0	0	0	0	0	0
GRM033R61C103KA12D	GRM033R61C103KA12D	-	0	0	0	390,000	0	0
GRM033R61E102KA01D	GRM033R61E102KA01D	-	0	0	0	0	0	0
GRM033R61E103KA12D	GRM033R61E103KA12D	-	0	0	0	60,000	255,000	0
GRM033R61E331KA01D	GRM033R61E331KA01D	-	0	0	210,000	720,000	525,000	75,000
GRM033R61E472KA12D	GRM033R61E472KA12D	-	0	0	0	0	0	0
GRM033R70J103KA01D	GRM033R70J103KA01D	-	0	480,000	225,000	0	15,000	0
GRM033R70J472KA01D	GRM033R70J472KA01D	-	0	0	0	30,000	0	0
GRM033R71A103KA01D	GRM033R71A103KA01D	-	0	0	0	360,000	2,295,000	315,000
GRM033R71A182KA01D	GRM033R71A182KA01D	-	0	0	0	0	0	0
GRM033R71A222KA01D	GRM033R71A222KA01D	-	0	0	0	0	0	0
GRM033R71A332KA01D	GRM033R71A332KA01D	-	0	0	0	15,000	0	0
GRM033R71A472KA01D	GRM033R71A472KA01D	-	0	0	30,000	0	0	0
GRM033R71A562KA01D	GRM033R71A562KA01D	-	0	0	0	0	0	0
GRM033R71A682KA01D	GRM033R71A682KA01D	-	0	0	0	0	120,000	465,000
GRM033R71C101KA01D	GRM033R71C101KA01D	-	0	0	0	0	0	0
GRM033R71C102KA01D	GRM033R71C102KA01D	-	0	0	15,000	495,000	45,000	0
GRM033R71C152KA01D	GRM033R71C152KA01D	-	0	0	0	0	0	0
GRM033R71C181KA01D	GRM033R71C181KA01D	-	0	0	0	0	0	0
GRM033R71C222KA88D	GRM033R71C222KA88D	-	0	45,000	195,000	0	0	0
GRM033R71C271KA01D	GRM033R71C271KA01D	-	0	0	0	0	0	0
GRM033R71C272KA88D	GRM033R71C272KA88D	-	0	0	0	0	0	0
GRM033R71C331KA01D	GRM033R71C331KA01D	-	15,000	0	15,000	0	0	0
GRM033R71C332KA88D	GRM033R71C332KA88D	-	0	0	0	0	0	0

GRM033R71C471KA01D	GRM033R71C471KA01D	-	0	0	15,000	0	45,000	0
GRM033R71C821KA01D	GRM033R71C821KA01D	-	0	0	0	0	0	0
GRM033R71E101KA01D	GRM033R71E101KA01D	-	0	0	0	0	0	0
GRM033R71E102KA01D	GRM033R71E102KA01D	-	0	0	315,000	255,000	420,000	0
GRM033R71E151KA01D	GRM033R71E151KA01D	-	0	0	0	0	0	0
GRM033R71E152KA01D	GRM033R71E152KA01D	-	0	0	0	0	0	0
GRM033R71E221KA01D	GRM033R71E221KA01D	-	0	0	0	0	0	0
GRM033R71E222KA12D	GRM033R71E222KA12D	-	0	0	0	105,000	105,000	0
GRM033R71E271KA01D	GRM033R71E271KA01D	-	0	0	0	0	0	0
GRM033R71E332KA12D	GRM033R71E332KA12D	-	0	0	0	15,000	0	0
GRM033R71E391KA01D	GRM033R71E391KA01D	-	0	0	0	0	0	0
GRM033R71E471KA01D	GRM033R71E471KA01D	-	0	0	0	0	0	0
GRM033R71E561KA01D	GRM033R71E561KA01D	-	0	0	0	0	0	0
GRM033R71E681KA01D	GRM033R71E681KA01D	-	0	0	0	0	0	0
GRM033R71H101KA12D	GRM033R71H101KA12D	-	0	0	0	0	0	0
GRM033R71H102KA12D	GRM033R71H102KA12D	-	0	0	0	0	0	0
GRM033R71H151KA12D	GRM033R71H151KA12D	-	0	0	0	0	0	0
GRM033R71H221KA12D	GRM033R71H221KA12D	-	0	0	0	0	0	0
GRM033R71H331KA12D	GRM033R71H331KA12D	-	0	0	0	0	0	0
GRM033R71H471KA12D	GRM033R71H471KA12D	-	0	0	0	0	210,000	0
GRM033R71H681KA12D	GRM033R71H681KA12D	-	0	0	0	0	0	0
GRM155B11A104KA01D	GRM155B11A104KA01D	-	0	0	0	0	0	0
GRM155B11C103KA01D	GRM155B11C103KA01D	-	0	0	0	0	0	0
GRM155B11C223KA01D	GRM155B11C223KA01D	-	0	0	0	0	0	0
GRM155B11C393KA01D	GRM155B11C393KA01D	-	0	0	0	0	0	0
GRM155B11C473KA01D	GRM155B11C473KA01D	-	0	0	0	0	0	0
GRM155B11E103KA01D	GRM155B11E103KA01D	-	0	0	0	0	0	0
GRM155B11H102KA01D	GRM155B11H102KA01D	-	0	0	0	260,000	1,720,000	0
GRM155B11H152KA01D	GRM155B11H152KA01D	-	0	0	0	0	0	0
GRM155B11H221KA01D	GRM155B11H221KA01D	-	0	0	0	0	0	0
GRM155B11H222KA01D	GRM155B11H222KA01D	-	0	0	0	20,000	50,000	0
GRM155B11H332JA01D	GRM155B11H332JA01D	-	0	0	0	0	0	0
GRM155B11H332KA01D	GRM155B11H332KA01D	-	0	370,000	800,000	470,000	550,000	0
GRM155B11H471KA01D	GRM155B11H471KA01D	-	0	0	0	0	0	0
GRM155B11H472KA01D	GRM155B11H472KA01D	-	0	0	0	30,000	40,000	0
GRM155B11H681KA01D	GRM155B11H681KA01D	-	0	0	0	0	0	0
GRM155B30J225KE95D	GRM155B30J225KE95D	-	0	0	0	0	0	0
GRM155B31A105KE15D	GRM155B31A105KE15D	-	0	0	0	190,000	1,030,000	0
GRM155B31C104KA87D	GRM155B31C104KA87D	-	0	0	0	0	0	0
GRM155B31C683KA87D	GRM155B31C683KA87D	-	0	0	0	0	0	0
GRM155B31E104KA87D	GRM155B31E104KA87D	-	0	680,000	990,000	0	10,000	0
GRM155B31E333KA87D	GRM155B31E333KA87D	-	0	0	0	0	60,000	10,000
GRM155B31E473KA87D	GRM155B31E473KA87D	-	0	0	0	0	0	0
GRM155C80G105KE19D	GRM155C80G105KE19D	-	0	0	0	0	0	0
GRM155C80J105KE15D	GRM155C80J105KE15D	-	0	0	0	0	0	0
GRM155C80J106ME11D	GRM155C80J106ME11D	-	0	0	0	60,000	20,000	90,000
GRM155C80J225KE95D	GRM155C80J225KE95D	-	0	0	0	10,000	10,000	20,000
GRM155R11C104KA88D	GRM155R11C104KA88D	-	0	2,260,000	3,480,000	790,000	1,090,000	0
GRM155R11E223KA61D	GRM155R11E223KA61D	-	0	0	0	0	0	0
GRM155R11H102KA01D	GRM155R11H102KA01D	-	0	2,840,000	4,980,000	2,000,000	2,370,000	0
GRM155R11H221KA01D	GRM155R11H221KA01D	-	0	0	30,000	30,000	90,000	10,000
GRM155R60E106ME16D	GRM155R60E106ME16D	-	0	0	0	0	0	0
GRM155R60G225ME15D	GRM155R60G225ME15D	-	0	0	0	0	0	0
GRM155R60G475ME47D	GRM155R60G475ME47D	-	0	0	0	20,000	0	0
GRM155R60G475ME87D	GRM155R60G475ME87D	-	0	10,000	0	110,000	500,000	340,000
GRM155R60J103KA01D	GRM155R60J103KA01D	-	0	0	0	2,130,000	660,000	0
GRM155R60J105KE19D	GRM155R60J105KE19D	-	2,000,000	0	0	0	0	1,780,000
GRM155R60J105ME19D	GRM155R60J105ME19D	-	0	0	0	0	30,000	0
GRM155R60J106ME44D	GRM155R60J106ME44D	-	430,000	0	0	20,000	1,020,000	4,100,000
GRM155R60J225KE95D	GRM155R60J225KE95D	-	0	10,000	0	0	0	0
GRM155R60J225ME15D	GRM155R60J225ME15D	-	0	0	0	20,000	5,110,000	1,610,000
GRM155R60J225ME95D	GRM155R60J225ME95D	-	0	0	0	0	0	0



GRM155R60J475KE96D	GRM155R60J475KE96D	-	0	0	0	580,000	600,000	2,320,000
GRM155R60J475ME47D	GRM155R60J475ME47D	-	0	60,000	0	20,000	940,000	2,270,000
GRM155R60J475ME87D	GRM155R60J475ME87D	-	50,000	0	200,000	1,280,000	1,300,000	13,000,000
GRM155R61A104KA01D	GRM155R61A104KA01D	-	0	0	0	0	2,000,000	6,000,000
GRM155R61A105KE15D	GRM155R61A105KE15D	-	2,000,000	0	0	500,000	15,330,000	1,140,000
GRM155R61A105ME15D	GRM155R61A105ME15D	-	0	0	0	70,000	70,000	0
GRM155R61A225KE95D	GRM155R61A225KE95D	-	0	0	0	0	170,000	350,000
GRM155R61A225ME95D	GRM155R61A225ME95D	-	0	0	0	0	0	20,000
GRM155R61A473KA01D	GRM155R61A473KA01D	-	0	0	0	60,000	20,000	0
GRM155R61A563KA01D	GRM155R61A563KA01D	-	0	0	0	0	0	0
GRM155R61A683KA01D	GRM155R61A683KA01D	-	0	0	0	0	0	0
GRM155R61C103KA01D	GRM155R61C103KA01D	-	0	0	0	0	10,000	0
GRM155R61C104JA88D	GRM155R61C104JA88D	-	0	0	0	0	0	0
GRM155R61C104KA88D	GRM155R61C104KA88D	-	0	20,000	0	750,000	5,050,000	800,000
GRM155R61C273KA01D	GRM155R61C273KA01D	-	0	0	0	0	0	0
GRM155R61C333KA01D	GRM155R61C333KA01D	-	0	0	0	20,000	0	0
GRM155R61C393KA01D	GRM155R61C393KA01D	-	0	0	0	0	0	0
GRM155R61C473KA01D	GRM155R61C473KA01D	-	0	0	60,000	70,000	120,000	0
GRM155R61C563KA88D	GRM155R61C563KA88D	-	0	0	0	0	0	0
GRM155R61C683KA88D	GRM155R61C683KA88D	-	0	0	0	0	0	0
GRM155R61E104KA87D	GRM155R61E104KA87D	-	0	0	0	0	0	30,000
GRM155R61E472KA01D	GRM155R61E472KA01D	-	0	0	0	0	10,000	0
GRM155R70J104KA01D	GRM155R70J104KA01D	-	0	0	0	0	0	0
GRM155R71A104KA01D	GRM155R71A104KA01D	-	0	2,000,000	0	100,000	300,000	0
GRM155R71A333KA01D	GRM155R71A333KA01D	-	0	0	200,000	0	0	0
GRM155R71A473KA01D	GRM155R71A473KA01D	-	0	0	0	920,000	90,000	0
GRM155R71C102KA01D	GRM155R71C102KA01D	-	0	0	0	0	10,000	0
GRM155R71C103KA01D	GRM155R71C103KA01D	-	0	200,000	200,000	800,000	2,200,000	2,000,000
GRM155R71C104JA88D	GRM155R71C104JA88D	-	0	0	0	1,880,000	8,330,000	0
GRM155R71C104KA88D	GRM155R71C104KA88D	-	7,000,000	0	0	0	0	0
GRM155R71C123KA01D	GRM155R71C123KA01D	-	0	0	20,000	80,000	140,000	0
GRM155R71C153KA01D	GRM155R71C153KA01D	-	0	0	0	0	0	20,000
GRM155R71C222KA01D	GRM155R71C222KA01D	-	0	10,000	20,000	10,000	80,000	20,000
GRM155R71C223JA01D	GRM155R71C223JA01D	-	0	0	0	0	20,000	0
GRM155R71C223KA01D	GRM155R71C223KA01D	-	0	0	0	0	70,000	0
GRM155R71C273KA01D	GRM155R71C273KA01D	-	0	0	0	0	20,000	0
GRM155R71C333KA01D	GRM155R71C333KA01D	-	0	0	0	40,000	10,000	40,000
GRM155R71C393KA01D	GRM155R71C393KA01D	-	0	0	0	0	40,000	0
GRM155R71C472KA01D	GRM155R71C472KA01D	-	0	0	0	40,000	0	0
GRM155R71C473KA01D	GRM155R71C473KA01D	-	0	0	600,000	0	60,000	0
GRM155R71C683KA88D	GRM155R71C683KA88D	-	0	0	0	0	20,000	0
GRM155R71C823KA88D	GRM155R71C823KA88D	-	0	0	0	0	0	0
GRM155R71E103KA01D	GRM155R71E103KA01D	-	0	0	0	900,000	0	0
GRM155R71E153KA61D	GRM155R71E153KA61D	-	0	0	0	20,000	0	0
GRM155R71E222KA01D	GRM155R71E222KA01D	-	0	0	0	0	0	0
GRM155R71E223KA61D	GRM155R71E223KA61D	-	0	0	0	0	40,000	20,000
GRM155R71E273KA88D	GRM155R71E273KA88D	-	0	0	0	0	20,000	0
GRM155R71E333KA88D	GRM155R71E333KA88D	-	0	0	0	0	0	10,000
GRM155R71E472KA01D	GRM155R71E472KA01D	-	20,000	0	0	10,000	0	0
GRM155R71E473KA88D	GRM155R71E473KA88D	-	0	0	0	0	80,000	1,300,000
GRM155R71E682KA01D	GRM155R71E682KA01D	-	0	0	0	60,000	220,000	0
GRM155R71E822KA01D	GRM155R71E822KA01D	-	0	0	0	0	0	0
GRM155R71H102JA01D	GRM155R71H102JA01D	-	0	0	0	0	0	0
GRM155R71H102KA01D	GRM155R71H102KA01D	-	0	0	0	250,000	1,720,000	0
GRM155R71H104KE14D	GRM155R71H104KE14D	-	0	0	100,000	0	0	260,000
GRM155R71H122KA01D	GRM155R71H122KA01D	-	0	0	0	0	10,000	0
GRM155R71H152KA01D	GRM155R71H152KA01D	-	0	0	0	0	0	0
GRM155R71H182KA01D	GRM155R71H182KA01D	-	0	0	0	0	0	0
GRM155R71H221KA01D	GRM155R71H221KA01D	-	0	0	0	0	30,000	0
GRM155R71H222KA01D	GRM155R71H222KA01D	-	0	0	0	0	0	30,000
GRM155R71H271KA01D	GRM155R71H271KA01D	-	0	0	10,000	20,000	30,000	10,000
GRM155R71H272KA01D	GRM155R71H272KA01D	-	0	0	60,000	30,000	60,000	100,000

GRM155R71H331KA01D	GRM155R71H331KA01D	-	0	0	0	0	0	0	0
GRM155R71H332JA01D	GRM155R71H332JA01D	-	0	0	0	0	0	0	0
GRM155R71H471KA01D	GRM155R71H471KA01D	-	4,000,000	0	0	0	500,000	0	0
GRM155R71H472KA01D	GRM155R71H472KA01D	-	0	0	0	0	0	0	0
GRM155R71H561KA01D	GRM155R71H561KA01D	-	0	0	0	0	40,000	0	0
GRM155R71H681KA01D	GRM155R71H681KA01D	-	0	0	0	0	90,000	40,000	0
GRM155R71H821KA01D	GRM155R71H821KA01D	-	0	0	0	10,000	0	0	0
GRM188B30J106ME47D	GRM188B30J106ME47D	-	0	0	0	60,000	0	0	0
GRM188B30J475KE18D	GRM188B30J475KE18D	-	0	0	0	0	0	0	0
GRM188B31A225KE33D	GRM188B31A225KE33D	-	24,000	0	0	0	0	0	0
GRM188C80G106ME47D	GRM188C80G106ME47D	-	0	0	0	32,000	0	0	0
GRM188C80G226MEA0D	GRM188C80G226MEA0D	-	0	4,000	20,000	48,000	0	0	0
GRM188C80J226ME15D	GRM188C80J226ME15D	-	0	0	0	4,000	0	8,000	0
GRM188R60G106ME47D	GRM188R60G106ME47D	-	0	0	0	4,000	8,000	4,000	0
GRM188R60G226MEA0D	GRM188R60G226MEA0D	-	0	0	0	4,000	12,000	0	0
GRM188R60J106KE47D	GRM188R60J106KE47D	-	0	0	0	0	0	0	0
GRM188R60J106ME47D	GRM188R60J106ME47D	-	0	0	0	4,400,000	3,000,000	1,400,000	0
GRM188R60J106ME47J	GRM188R60J106ME47J	-	0	0	0	100,000	30,000	0	0
GRM188R60J226MEA0D	GRM188R60J226MEA0D	-	0	0	0	28,000	112,000	0	0
GRM188R60J475KE19D	GRM188R60J475KE19D	-	0	0	1,900,000	1,800,000	2,700,000	1,700,000	0
GRM188R60J475ME19D	GRM188R60J475ME19D	-	0	4,000	4,000	84,000	52,000	220,000	0
GRM188R60J476ME15D	GRM188R60J476ME15D	-	0	0	0	0	0	0	0
GRM188R61A226ME15D	GRM188R61A226ME15D	-	0	0	0	0	0	0	0
GRM188R61A475KE15D	GRM188R61A475KE15D	-	0	0	0	144,000	1,120,000	696,000	0
GRM188R61A475ME15D	GRM188R61A475ME15D	-	0	0	0	0	0	0	0
GRM188R61C225KE15D	GRM188R61C225KE15D	-	0	0	0	160,000	600,000	120,000	0
GRM21BB30J106KE18L	GRM21BB30J106KE18L	-	0	0	0	0	0	0	0
GRM21BB31A106KE18L	GRM21BB31A106KE18L	-	0	0	0	231,000	282,000	0	0
GRM21BB31C106KE15L	GRM21BB31C106KE15L	-	0	0	0	0	0	0	0
GRM21BB31E106KA73L	GRM21BB31E106KA73L	-	0	0	0	0	0	0	0
GRM21BB31E475KA75L	GRM21BB31E475KA75L	-	0	0	0	0	0	0	0
GRM21BC80G476ME15L	GRM21BC80G476ME15L	-	0	0	0	21,000	753,000	1,110,000	0
GRM21BC80J106KE19L	GRM21BC80J106KE19L	-	0	0	0	0	0	0	0
GRM21BC80J226ME51L	GRM21BC80J226ME51L	-	0	9,000	0	24,000	135,000	15,000	0
GRM21BC81C106KE15L	GRM21BC81C106KE15L	-	0	0	0	0	33,000	0	0
GRM21BR60G476ME15L	GRM21BR60G476ME15L	-	0	0	0	0	0	0	0
GRM21BR60J106KE19L	GRM21BR60J106KE19L	-	0	0	0	2,055,000	603,000	0	0
GRM21BR60J106ME19L	GRM21BR60J106ME19L	-	0	0	0	174,000	72,000	180,000	0
GRM21BR60J226ME39K	GRM21BR60J226ME39K	-	0	0	0	0	190,000	100,000	0
GRM21BR60J226ME39L	GRM21BR60J226ME39L	-	0	0	120,000	717,000	306,000	1,704,000	0
GRM21BR60J476ME15L	GRM21BR60J476ME15L	-	0	0	0	0	0	36,000	0
GRM21BR61A106KE19L	GRM21BR61A106KE19L	-	0	0	0	993,000	3,708,000	2,406,000	0
GRM21BR61A226ME51L	GRM21BR61A226ME51L	-	0	327,000	102,000	165,000	939,000	954,000	0
GRM21BR61C106KE15L	GRM21BR61C106KE15L	-	0	0	0	1,605,000	2,007,000	306,000	0
GRM21BR61C106ME15L	GRM21BR61C106ME15L	-	0	0	0	0	0	0	0
GRM21BR61C475MA88L	GRM21BR61C475MA88L	-	0	0	0	0	0	0	0
GRM21BR61E106KA73L	GRM21BR61E106KA73L	-	0	18,000	27,000	0	15,000	201,000	0
GRM21BR61E106MA73L	GRM21BR61E106MA73L	-	0	0	0	0	6,000	0	0
GRM21BR61E475KA12L	GRM21BR61E475KA12L	-	0	270,000	0	405,000	1,278,000	270,000	0
GRM21BR61E475MA12L	GRM21BR61E475MA12L	-	0	0	0	183,000	102,000	0	0
GRM21BR70J106KA73L	GRM21BR70J106KA73L	-	0	0	0	0	0	609,000	0
GRM21BR71A106KA73L	GRM21BR71A106KA73L	-	0	0	0	0	324,000	0	0
GRM21BR71A106MA73L	GRM21BR71A106MA73L	-	0	0	0	0	0	0	0
GRM31CB30J476ME18L	GRM31CB30J476ME18L	-	0	0	10,000	6,000	6,000	2,000	0
GRM31CB31A476KE15L	GRM31CB31A476KE15L	-	0	0	0	0	0	0	0
GRM31CB31A476ME15L	GRM31CB31A476ME15L	-	0	0	0	0	0	0	0
GRM31CB31C226ME15L	GRM31CB31C226ME15L	-	0	0	10,000	4,000	12,000	0	0
GRM31CB31E106KA75L	GRM31CB31E106KA75L	-	0	0	0	0	0	0	0
GRM31CB31E226ME15L	GRM31CB31E226ME15L	-	0	0	0	0	0	0	0
GRM31CC80J476KE18L	GRM31CC80J476KE18L	-	0	0	0	0	22,000	0	0
GRM31CC80J476ME18L	GRM31CC80J476ME18L	-	0	0	4,000	2,000	102,000	98,000	0
GRM31CC81E106KE15L	GRM31CC81E106KE15L	-	0	0	0	14,000	12,000	14,000	0

GRM31CR60J476ME19L	GRM31CR60J476ME19L	-	0	0	0	0	0	64,000	
GRM31CR61A226KE19L	GRM31CR61A226KE19L	-	0	2,000	0	12,000	8,000	2,000	
GRM31CR61A226ME19L	GRM31CR61A226ME19L	-	0	0	20,000	40,000	20,000	0	
GRM31CR61A476KE15L	GRM31CR61A476KE15L	-	0	0	0	4,000	32,000	0	
GRM31CR61A476ME15L	GRM31CR61A476ME15L	-	0	0	0	6,000	88,000	0	
GRM31CR61C226KE15L	GRM31CR61C226KE15L	-	0	0	0	260,000	578,000	0	
GRM31CR61C226ME15L	GRM31CR61C226ME15L	-	0	0	0	210,000	300,000	30,000	
GRM31CR61E106MA12L	GRM31CR61E106MA12L	-	0	0	0	0	150,000	0	
GRM31CR61E226KE15L	GRM31CR61E226KE15L	-	0	0	60,000	180,000	1,620,000	432,000	
GRM31CR6YA106KA12L	GRM31CR6YA106KA12L	-	0	0	0	0	32,000	4,000	