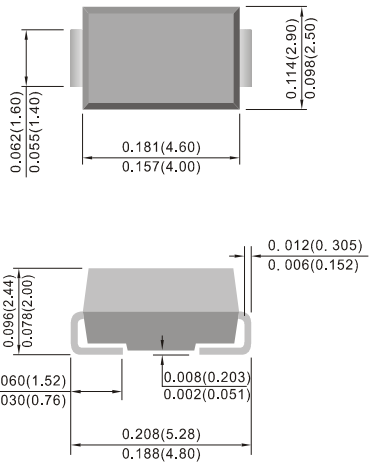
# 1SMA4728~1SMA4757

## SURFACE MOUNT SILICON ZENERDIODE

**VOLTAGE** 3.3 to 51 Volt **POWER** 1 Watt

**SMA / DO-214AC** Unit : inch(mm)

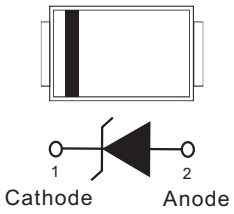



### FEATURES

- For surface mounted applications in order to optimize board space
- Low inductance
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- High temperature soldering : 260°C /10 seconds at terminals
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### MECHANICAL DATA

- Case: JEDEC DO-214AC,Molded plastic over passivated junction.
- Terminals: Solder plated,solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Standard Packaging: 12mm tape (EIA-481)
- Weight: 0.0023 ounces, 0.0679 grams




## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| Parameter | Symbol | Value | Units |
|---|---|---|---|
| Peak Pulse Power Dissipation on $T_A$=50°C (Notes A)<br>Derate above 50 °C | $P_D$ | 1.0 | W atts |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load | $I_{FSM}$ | 10 | Amps |
| Operating Junction and Storage Temperature Range | $T_J$,$T_{STG}$ | -55 to + 150 | °C |

NOTES:

A. Mounted on 5mm² (0.013mm thick) land areas.

B. Measured on 8.3ms, and single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum.

C. Tolerance and Type Number Designation. The type numbers listed have a standard tolerance on the nominal zener voltage of ± 5%.

# 1SMA4728~1SMA4757

| Part Number | Nominal Zener Voltage | | | Maximum Zener Impedance | | | | Max Reverse Leakage Current | | Marking Code |
|---|---|---|---|---|---|---|---|---|---|---|
| | $V_Z$ @ $I_{ZT}$ | | | $Z_{ZT}$ @ $I_{ZT}$ | | $Z_{ZK}$ @ $I_{ZK}$ | | $I_R$ @$V_R$ | | |
| | Nom. V | Min. V | Max. V | Ω | mA | Ω | mA | uA Max. | V | |
| 1SMA4728 | 3.3 | 3.1 | 3.5 | 10 | 76 | 400 | 1 | 100 | 1 | 728B |
| 1SMA4730 | 3.9 | 3.7 | 4.1 | 9 | 64 | 400 | 1 | 50 | 1 | 730B |
| 1SMA4731 | 4.3 | 4.1 | 4.5 | 9 | 58 | 400 | 1 | 10 | 1 | 731B |
| 1SMA4732 | 4.7 | 4.5 | 4.9 | 8 | 53 | 500 | 1 | 10 | 1 | 732B |
| 1SMA4733 | 5.1 | 4.8 | 5.4 | 7 | 49 | 550 | 1 | 10 | 1 | 733B |
| 1SMA4734 | 5.6 | 5.3 | 5.9 | 5 | 45 | 600 | 1 | 10 | 2 | 734B |
| 1SMA4735 | 6.2 | 5.9 | 6.5 | 2 | 41 | 700 | 1 | 10 | 3 | 735B |
| 1SMA4736 | 6.8 | 6.46 | 7.14 | 3.5 | 37 | 700 | 1 | 5 | 4 | 736B |
| 1SMA4737 | 7.5 | 7.13 | 7.88 | 4 | 34 | 700 | 0.5 | 5 | 5 | 737B |
| 1SMA4738 | 8.2 | 7.79 | 8.61 | 4.5 | 31 | 700 | 0.5 | 5 | 6 | 738B |
| 1SMA4739 | 9.1 | 8.65 | 9.56 | 5 | 28 | 700 | 0.5 | 0.5 | 7 | 739B |
| 1SMA4740 | 10 | 9.5 | 10.5 | 7 | 25 | 700 | 0.25 | 0.5 | 7.6 | 740B |
| 1SMA4741 | 11 | 10.45 | 11.55 | 8 | 23 | 700 | 0.25 | 0.1 | 8.4 | 741B |
| 1SMA4742 | 12 | 11.4 | 12.6 | 9 | 21 | 700 | 0.25 | 0.1 | 9.1 | 742B |
| 1SMA4743 | 13 | 12.35 | 13.65 | 10 | 19 | 700 | 0.25 | 0.1 | 9.9 | 743B |
| 1SMA4744 | 15 | 14.25 | 15.75 | 14 | 17 | 700 | 0.25 | 0.1 | 11.4 | 744B |
| 1SMA4745 | 16 | 15.2 | 16.8 | 16 | 15.5 | 700 | 0.25 | 0.1 | 12.2 | 745B |
| 1SMA4746 | 18 | 17.1 | 18.9 | 20 | 14 | 750 | 0.25 | 0.1 | 13.7 | 746B |
| 1SMA4747 | 20 | 19 | 21 | 22 | 12.5 | 750 | 0.25 | 0.1 | 15.2 | 747B |
| 1SMA4748 | 22 | 20.9 | 23.1 | 23 | 11.5 | 750 | 0.25 | 0.1 | 16.7 | 748B |
| 1SMA4749 | 24 | 22.8 | 25.2 | 25 | 10.5 | 750 | 0.25 | 0.1 | 18.2 | 749B |
| 1SMA4750 | 27 | 25.65 | 28.35 | 35 | 9.5 | 750 | 0.25 | 0.1 | 20.6 | 750B |
| 1SMA4751 | 30 | 28.5 | 31.5 | 40 | 8.5 | 1000 | 0.25 | 0.1 | 22.8 | 751B |
| 1SMA4752 | 33 | 31.35 | 34.65 | 45 | 7.5 | 1000 | 0.25 | 0.1 | 25.1 | 752B |
| 1SMA4753 | 36 | 34.2 | 37.8 | 50 | 7 | 1000 | 0.25 | 0.1 | 27.4 | 753B |
| 1SMA4754 | 39 | 37.05 | 40.95 | 60 | 6.5 | 1000 | 0.25 | 0.1 | 29.7 | 754B |
| 1SMA4755 | 43 | 40.85 | 45.15 | 70 | 6 | 1500 | 0.25 | 0.1 | 32.7 | 755B |
| 1SMA4756 | 47 | 44.65 | 49.35 | 80 | 5.5 | 1500 | 0.25 | 0.1 | 35.8 | 756B |
| 1SMA4757 | 51 | 48.45 | 53.55 | 95 | 5 | 1500 | 0.25 | 0.1 | 38.8 | 757B |

# 1SMA4728~1SMA4757

## RATING AND CHARACTERISTICS CURVES

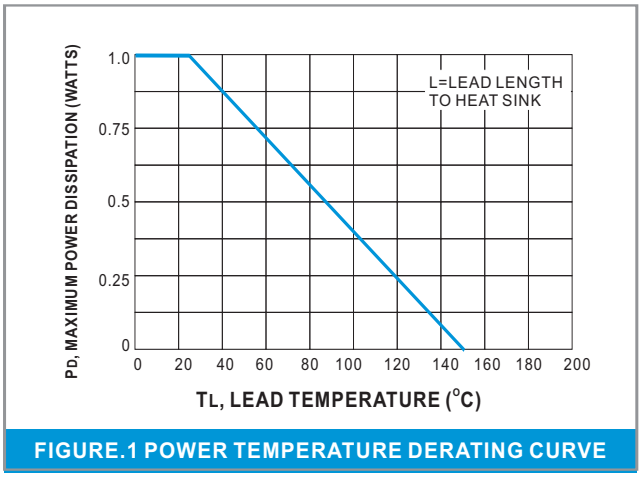



FIGURE.1 POWER TEMPERATURE DERATING CURVE

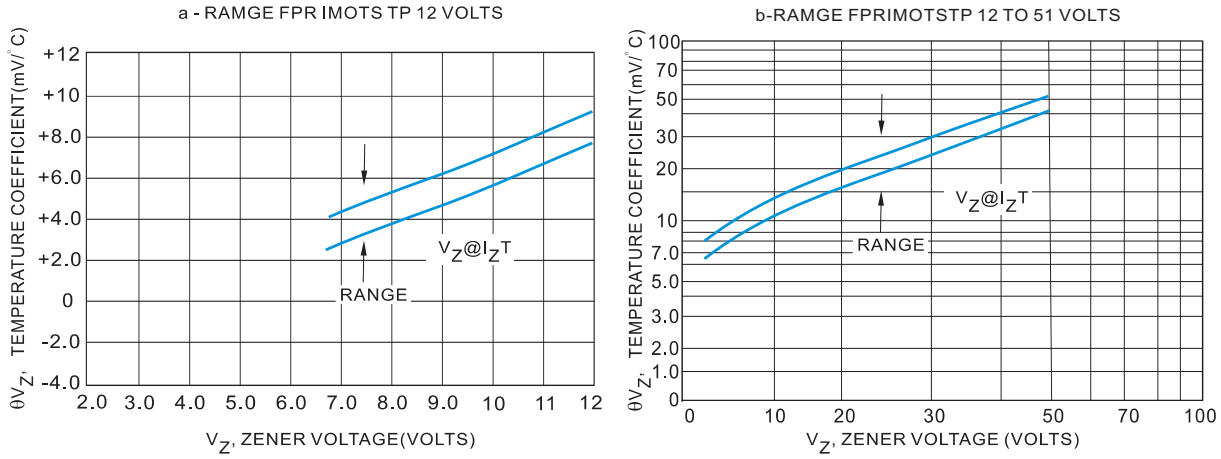



FIGURE 2 - TEMPERATURE COEFICIENTS
(-55° C TO +150° C TEMPERATURE RANGE; 90% OF THE UNITS ARE IN THE RANGES INDICATED.)

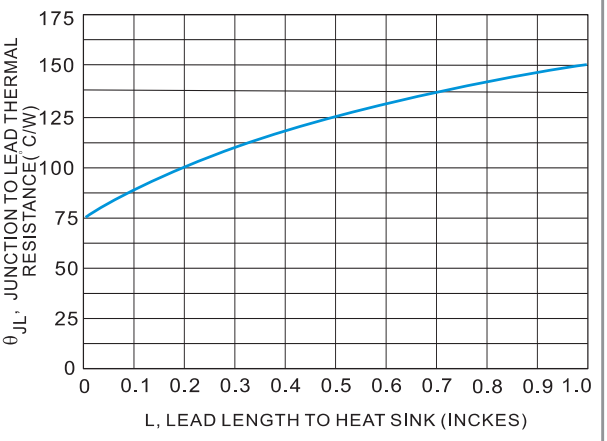



FIGURE 3 - TYPICAL THERMAL RESISTANCE versus LEAD LENGTH

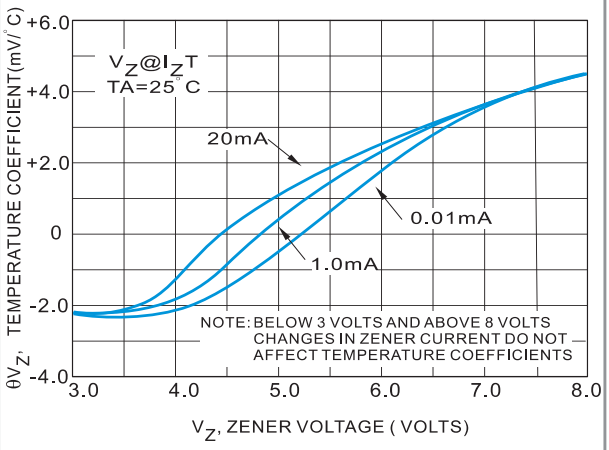
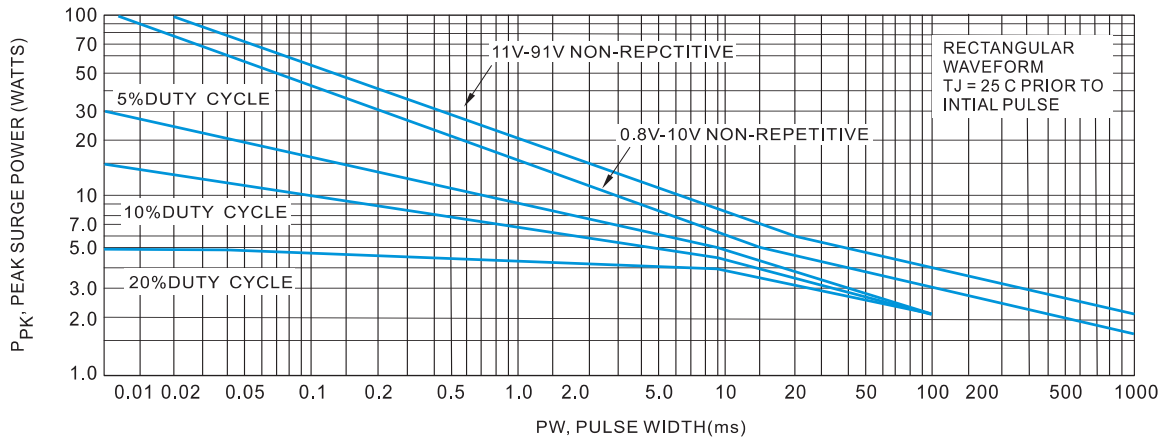



FIGURE 4 - EFFECT OF ZENER CURRENT

# 1SMA4728~1SMA4757




This graph represents 90 percentile data points.
FOR worst-case design characteristics, multiply surge power by 2/3

**FIGURE 5 - MAXIMUM SURGE POWER**

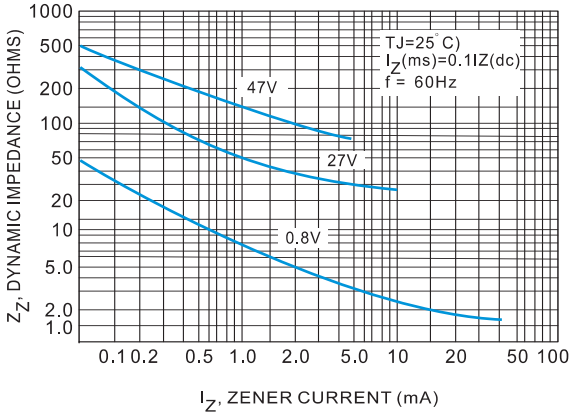



**FIGURE 6 - EFFECT OF ZENER CURRENT ON ZENER IMPEDANCE**

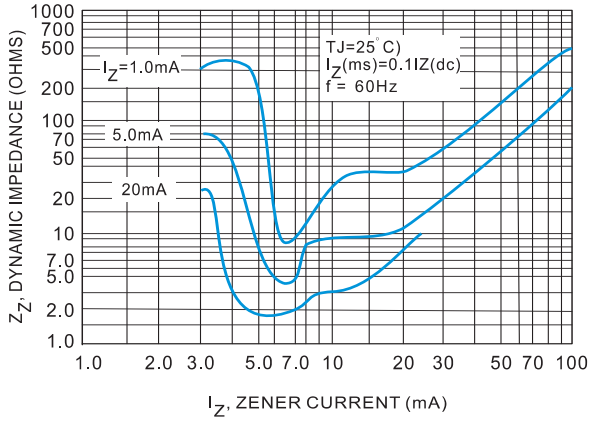



**FIGURE 7 - EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE**

# 1SMA4728~1SMA4757

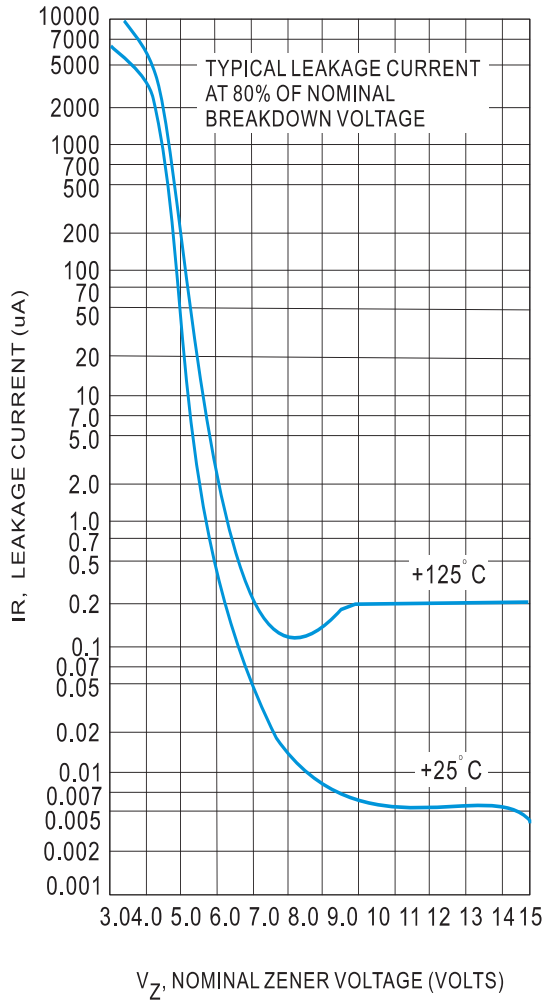



**FIGURE 8 - TYPICAL LEAKAGE CURRENT**

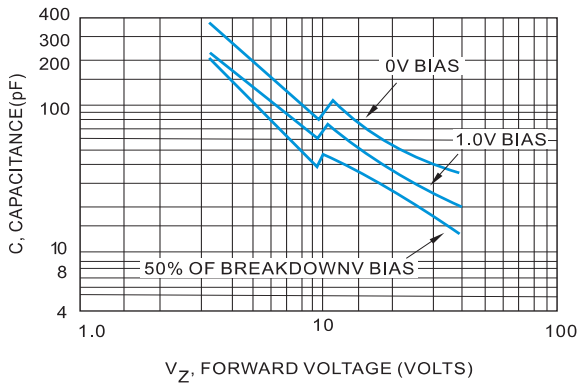



**FIGURE 9 - TYPICAL CAPACITANCE versus $V_Z$**

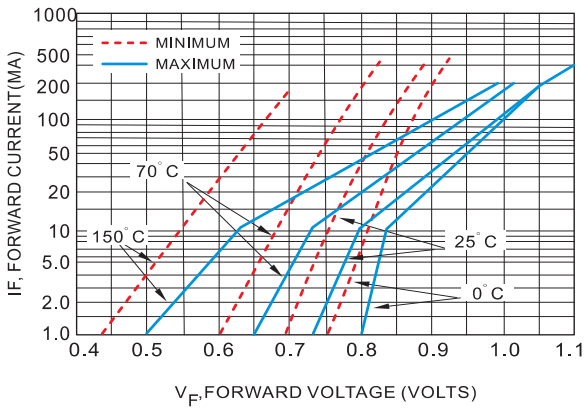
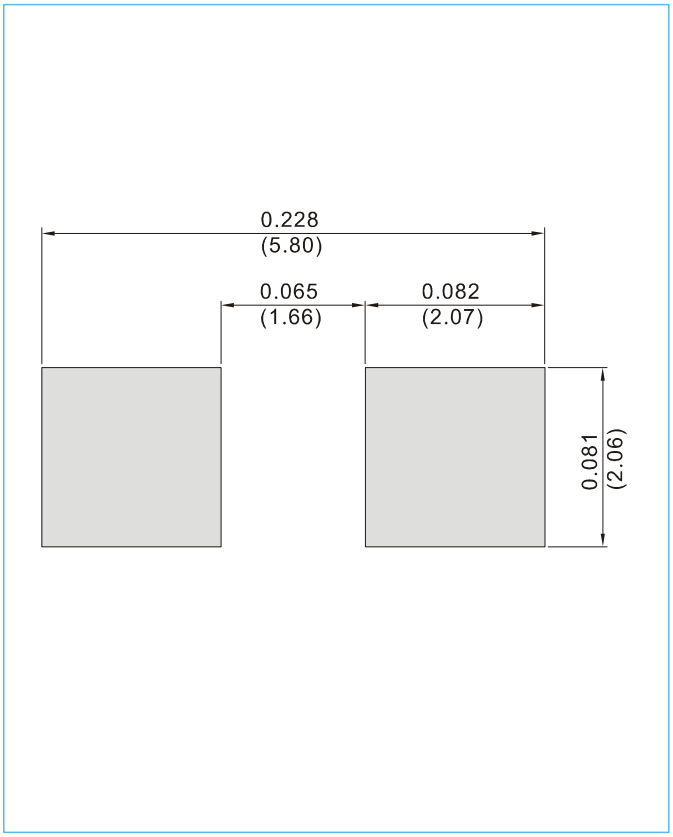



**FIGURE 10 - TYPICAL FORWARD CHARACTERISTICS**

# 1SMA4728~1SMA4757

## MOUNTING PAD LAYOUT

SMA / DO-214AC Unit : inch(mm)




## ORDER INFORMATION

- Packing information

  T/R - 7.5K per 13" plastic Reel

  T/R - 1.8K per 7" plastic Reel

# 1SMA4728~1SMA4757

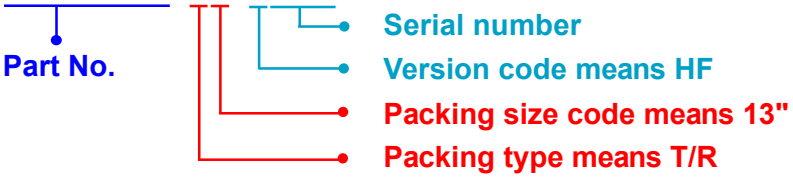
## Part No_packing code_Version

1SMA4728_R1_00001

1SMA4728_R2_00001

**For example :**

**RB500V-40_R2_00001**




| Packing Code XX | | | | Version Code XXXXX | | |
|---|---|---|---|---|---|---|
| Packing type | 1st Code | Packing size code | 2nd Code | HF or RoHS | 1st Code | 2nd~5th Code |
| Tape and Ammunition Box (T/B) | A | N/A | 0 | HF | 0 | serial number |
| Tape and Reel (T/R) | R | 7" | 1 | RoHS | 1 | serial number |
| Bulk Packing (B/P) | B | 13" | 2 | | | |
| Tube Packing (T/P) | T | 26mm | X | | | |
| Tape and Reel (Right Oriented) (TRR) | S | 52mm | Y | | | |
| Tape and Reel (Left Oriented) (TRL) | L | PANASERT T/B CATHODE UP (PBCU) | U | | | |
| FORMING | F | PANASERT T/B CATHODE DOWN (PBCD) | D | | | |

# Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.

# Unikeyic Electronics

Global Electronic Components Distributor

Click to view pricing, inventory, delivery, and lifecycle information:

## PANJIT:

ER2D_R2_00001 MMSZ5242B_R1_00001 P6SMBJ10A_R1_00001 PJSD24TS-AU_R1_000A1
SS20100FL_R1_00001 BSS8402DW_R1_00001 BZT52-B27S BZT52B12S_R1_00001
P4FL6.5A_R1_00001 S100_R1_00001 BAV99_R1_00001 ER2004CT_T0_00001 MMSZ5248B_R1_00001
S3JA_R2_00001 P6SMB75A_R3_00001 PSDH6060CCS1_T0_00001 S1G_R2_00001 BAV70_R1_00101
BZT52-B8V2S_R1_00001 PSDB1560L1_T0_00001 SB36AFC-AU_R1_000A1 MMSZ5245AS_R1_00001
P4SMAJ180A_R1_00001 SB34AFC-AU_R1_000A1 SB34AFC_R1_00001 ZMM55-C43_R1_10001
BAT750_R1_00001 GS1010FL-LE_R1_00001 GS1M_R1_10001 UF808_T0_00001