



Micro Commercial Components



Micro Commercial Components
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MMSZ5221B
THRU
MMSZ5259B(C)

Features

- Lead Free Finish/RoHS Compliant("P" Suffix designates RoHS Compliant. See ordering information)
Planar Die construction
Zener Voltages from 2.4V - 39V and 500mW Power Dissipation
Ideally Suited for Automated Assembly Processes

Mechanical Data

- Epoxy meets UL 94 V-0 flammability rating
Moisture Sensitivity Level 1
Halogen free available upon request by adding suffix "-HF"
Approx. Weight: 0.009 grams
Mounting Position: Any
Storage & Operating Temperature: -55°C to +150°C

Maximum Ratings @ 25°C Unless Otherwise Specified

Table with 4 columns: Parameter, Symbol, Value, Unit. Rows include Maximum Forward Voltage @ IF=10mA (VF, 0.9, V) and Power Dissipation (Notes A) (PAV, 500, mWatt).

NOTES:

A. Mounted on 5.0mm2(.013mm thick) land areas.

500 mW

Zener Diodes

2.4 to 39 Volts

SOD123

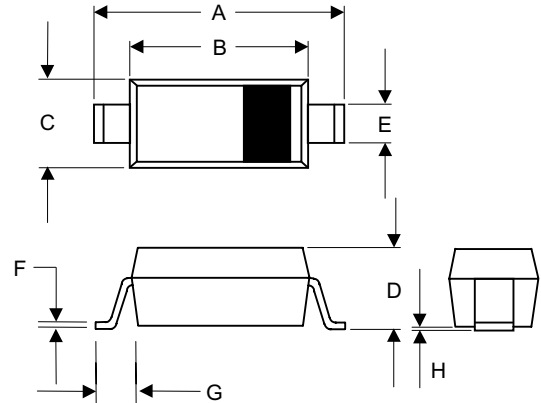
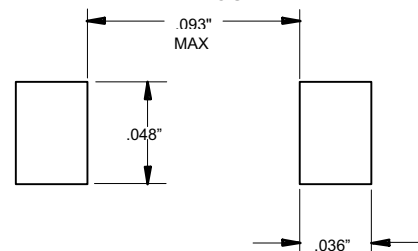


Table with 5 columns: DIM, INCHES (MIN, MAX), MM (MIN, MAX), NOTE. Lists dimensions A through H.

SUGGESTED SOLDER PAD LAYOUT



MMSZ5221B thru MMSZ5259B(C)

Electrical Characteristics @ 25°C Unless Otherwise Specified

| MCC PART NUMBER | Marking | NORMAL ZENER VOLTAGE | TEST CURRENT I _{zt} | MAXIMUM ZENER IMPEDANCE | | MAXIMUM REVERSE LEAKAGE CURRENT | | MAXIMUM ZENER VOLTAGE TEMP |
|-----------------|---------|----------------------------------|------------------------------|-----------------------------------|---|---------------------------------|-------|----------------------------|
| | | V _z @ I _{zt} | | Z _{zt} @ I _{zt} | Z _{zk} @ I _{zk} =0.25mA | I _r @ V _r | | |
| | | VOLTS | mA | OHMS | OHMS | uA | VOLTS | %/°C |
| MMSZ5221B | C1 | 2.4 | 20 | 30 | 1200 | 100 | 1.0 | -0.085 |
| MMSZ5222B | C2 | 2.5 | 20 | 30 | 1250 | 100 | 1.0 | -0.085 |
| MMSZ5223B | C3 | 2.7 | 20 | 30 | 1300 | 75 | 1.0 | -0.080 |
| MMSZ5225B | C5 | 3.0 | 20 | 29 | 1600 | 50 | 1.0 | -0.075 |
| MMSZ5226B | G1/D1 | 3.3 | 20 | 28 | 1600 | 25 | 1.0 | -0.070 |
| MMSZ5227B | G2/D2 | 3.6 | 20 | 24 | 1700 | 15 | 1.0 | -0.065 |
| MMSZ5228B | G3/D3 | 3.9 | 20 | 23 | 1900 | 10 | 1.0 | -0.060 |
| MMSZ5229B | G4/D4 | 4.3 | 20 | 22 | 2000 | 5.0 | 1.0 | ±0.055 |
| MMSZ5230B | G5/D5 | 4.7 | 20 | 19 | 1900 | 5.0 | 2.0 | ±0.030 |
| MMSZ5231B | E1 | 5.1 | 20 | 17 | 1600 | 5.0 | 2.0 | ±0.030 |
| MMSZ5232B | E2 | 5.6 | 20 | 11 | 1600 | 5.0 | 3.0 | +0.038 |
| MMSZ5233B | E3 | 6.0 | 20 | 7.0 | 1600 | 5.0 | 3.5 | +0.040 |
| MMSZ5234B | E4 | 6.2 | 20 | 7.0 | 1000 | 5.0 | 4.0 | +0.045 |
| MMSZ5235B | E5 | 6.8 | 20 | 5.0 | 750 | 3.0 | 5.0 | +0.050 |
| MMSZ5236B | F1 | 7.5 | 20 | 6.0 | 500 | 3.0 | 6.0 | +0.058 |
| MMSZ5237B | F2 | 8.2 | 20 | 8.0 | 500 | 3.0 | 6.5 | +0.062 |
| MMSZ5238B | F3 | 8.7 | 20 | 8.0 | 600 | 3.0 | 6.5 | +0.065 |
| MMSZ5239B | F4 | 9.1 | 20 | 10 | 600 | 3.0 | 7.0 | +0.068 |
| MMSZ5240B | F5 | 10 | 20 | 17 | 600 | 3.0 | 8.0 | +0.075 |
| MMSZ5241B | H1 | 11 | 20 | 22 | 600 | 2.0 | 8.4 | +0.076 |
| MMSZ5242B | H2 | 12 | 20 | 30 | 600 | 1.0 | 9.1 | +0.077 |
| MMSZ5243B | H3 | 13 | 9.5 | 13 | 600 | 0.5 | 9.9 | +0.079 |
| MMSZ5244B | H4 | 14 | 9.0 | 15 | 600 | 0.1 | 10.5 | +0.081 |
| MMSZ5245B | H5 | 15 | 8.5 | 16 | 600 | 0.1 | 11 | +0.082 |
| MMSZ5246B | J1 | 16 | 7.8 | 17 | 600 | 0.1 | 12 | +0.083 |
| MMSZ5248B | J3 | 18 | 7.0 | 21 | 600 | 0.1 | 14 | +0.085 |
| MMSZ5250B | J5 | 20 | 6.2 | 25 | 600 | 0.1 | 15 | +0.086 |
| MMSZ5251B | K1 | 22 | 5.6 | 29 | 600 | 0.1 | 17 | +0.087 |
| MMSZ5252B | K2 | 24 | 5.2 | 33 | 600 | 0.1 | 18 | +0.088 |
| MMSZ5254B | K4 | 27 | 4.6 | 41 | 600 | 0.1 | 21 | +0.090 |
| MMSZ5255B | K5 | 28 | 4.5 | 44 | 600 | 0.1 | 21 | +0.091 |
| MMSZ5256B | M1 | 30 | 4.2 | 49 | 600 | 0.1 | 23 | +0.091 |
| MMSZ5257B | M2 | 33 | 3.8 | 58 | 700 | 0.1 | 25 | +0.092 |
| MMSZ5258B | M3 | 36 | 3.4 | 70 | 700 | 0.1 | 27 | +0.093 |
| MMSZ5259B | M4 | 39 | 3.2 | 80 | 800 | 0.1 | 30 | +0.094 |

NOTE:

- Standard Zener voltage tolerance is ±5% with a "B" suffix (e.g.: MMSZ5225B), suffix "C" is ± 2% tolerance
- Specials Available Include:
 - Nominal zener voltages between the voltages shown and tighter voltage tolerances.
 - Matched sets.
- Zener Voltage (V_z) Measurement. Guarantees the zener voltage when measured at 90 seconds while maintaining the lead temperature (T_L) at 30°C, from the diode body.
- Zener Impedance (Z_z) Derivation. The zener impedance is derived from the 60 cycle ac voltage, which results when an AC current having an rms value equal to 10% of the dc zener current (I_{zt} or I_{zk}) is superimposed on I_{zt} or I_{zk}.
- Surge Current (I_r) Non-Repetitive. The rating listed in the electrical characteristics table is maximum peak, non-repetitive, reverse surge current of 1/2 square wave or equivalent sine wave pulse of 1/120 second duration superimposed on the test current, I_{zt}, per JEDEC registration; however, actual device capability is as described in Figure 5.

MMSZ5221B thru MMSZ5259B(C)

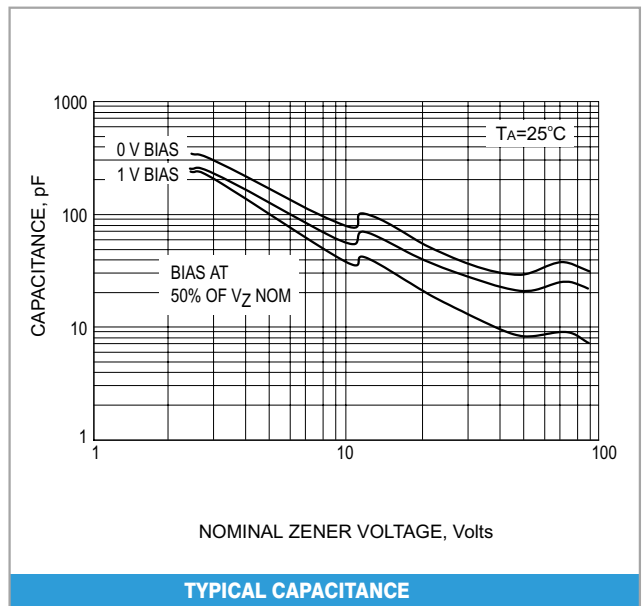
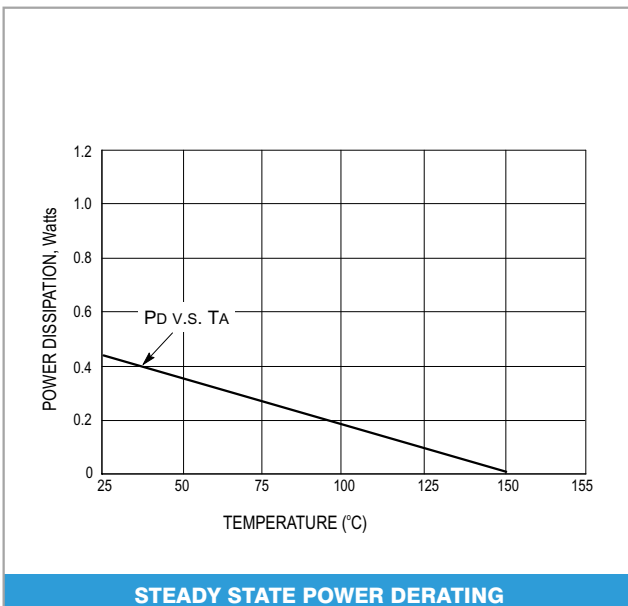
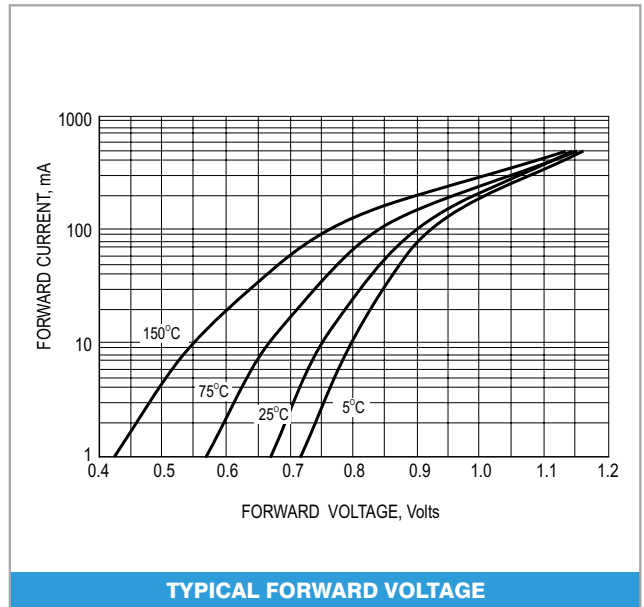
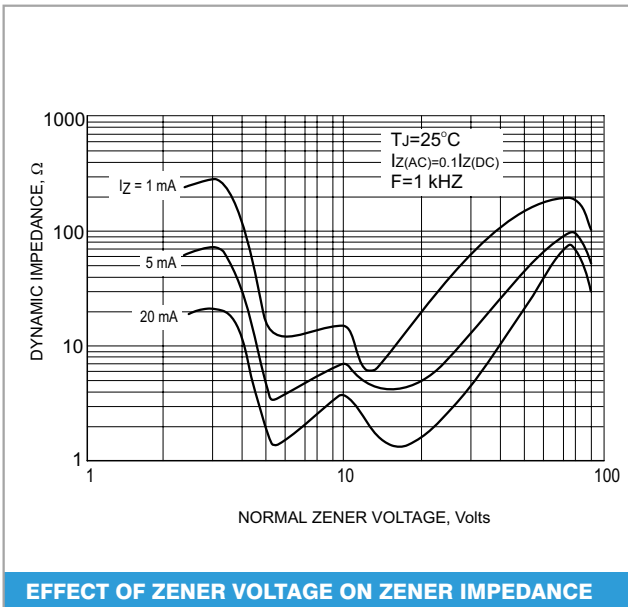
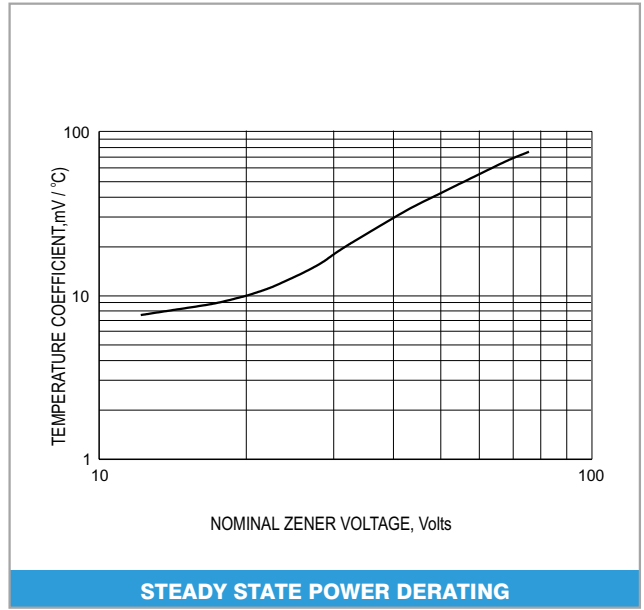
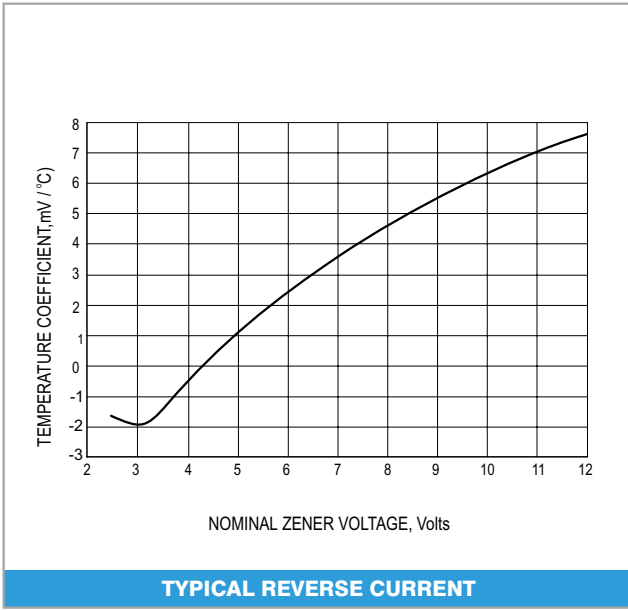
Electrical Characteristics @ 25°C Unless Otherwise Specified

| MCC PART NUMBER | Marking | NORMAL ZENER VOLTAGE | TEST CURRENT I _{zt} | MAXIMUM ZENER IMPEDANCE | | MAXIMUM REVERSE LEAKAGE CURRENT | | MAXIMUM ZENER VOLTAGE TEMP |
|-----------------|---------|----------------------------------|------------------------------|-----------------------------------|---|---------------------------------|---------------------------------|----------------------------|
| | | V _z @ I _{zt} | | Z _{zt} @ I _{zt} | Z _{zk} @ I _{zk} =0.25mA | I _r @ V _r | I _r @ V _r | |
| | | VOLTS | mA | OHMS | OHMS | uA | VOLTS | %/°C |
| MMSZ5229C | 2G4/D4 | 4.3 | 20 | 22 | 2000 | 5.0 | 1.0 | ±0.055 |
| MMSZ5230C | 2G5/D5 | 4.7 | 20 | 19 | 1900 | 5.0 | 2.0 | ±0.030 |
| MMSZ5231C | 2E1/E1 | 5.1 | 20 | 17 | 1600 | 5.0 | 2.0 | ±0.030 |
| MMSZ5232C | 2E2/E2 | 5.6 | 20 | 11 | 1600 | 5.0 | 3.0 | +0.038 |
| MMSZ5233C | 2E3/E3 | 6.0 | 20 | 7.0 | 1600 | 5.0 | 3.5 | +0.040 |
| MMSZ5234C | 2E4/E4 | 6.2 | 20 | 7.0 | 1000 | 5.0 | 4.0 | +0.045 |
| MMSZ5235C | 2E5/E5 | 6.8 | 20 | 5.0 | 750 | 3.0 | 5.0 | +0.050 |
| MMSZ5236C | 2F1/F1 | 7.5 | 20 | 6.0 | 500 | 3.0 | 6.0 | +0.058 |
| MMSZ5237C | 2F2/F2 | 8.2 | 20 | 8.0 | 500 | 3.0 | 6.0 | +0.062 |
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| MMSZ5239C | 2F4/F4 | 9.1 | 20 | 10 | 600 | 3.0 | 6.5 | +0.068 |
| MMSZ5240C | 2F5/F5 | 10 | 20 | 17 | 600 | 3.0 | 8.0 | +0.075 |
| MMSZ5241C | 2H1/H1 | 11 | 20 | 22 | 600 | 3.0 | 8.4 | +0.076 |
| MMSZ5242C | 2H2/H2 | 12 | 20 | 30 | 600 | 2.0 | 9.1 | +0.077 |
| MMSZ5243C | 2H3/H3 | 13 | 9.5 | 13 | 600 | 1.0 | 9.9 | +0.079 |
| MMSZ5244C | 2H4/H4 | 14 | 9.0 | 15 | 600 | 0.5 | 10.5 | +0.081 |
| MMSZ5245C | 2H5/H5 | 15 | 8.5 | 16 | 600 | 0.5 | 11 | +0.082 |
| MMSZ5246C | 2J1/J1 | 16 | 7.8 | 17 | 600 | 0.1 | 12 | +0.083 |
| MMSZ5248C | 2J3/J3 | 18 | 7.0 | 21 | 600 | 0.1 | 14 | +0.085 |
| MMSZ5250C | 2J5/J5 | 20 | 6.2 | 25 | 600 | 0.1 | 15 | +0.086 |
| MMSZ5251C | 2K1/K1 | 22 | 5.6 | 29 | 600 | 0.1 | 17 | +0.087 |
| MMSZ5252C | 2K2/K2 | 24 | 5.2 | 33 | 600 | 0.1 | 18 | +0.088 |
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| MMSZ5256C | 2M1/M1 | 30 | 4.2 | 49 | 600 | 0.1 | 23 | +0.091 |
| MMSZ5257C | 2M2/M2 | 33 | 3.8 | 58 | 700 | 0.1 | 25 | +0.092 |
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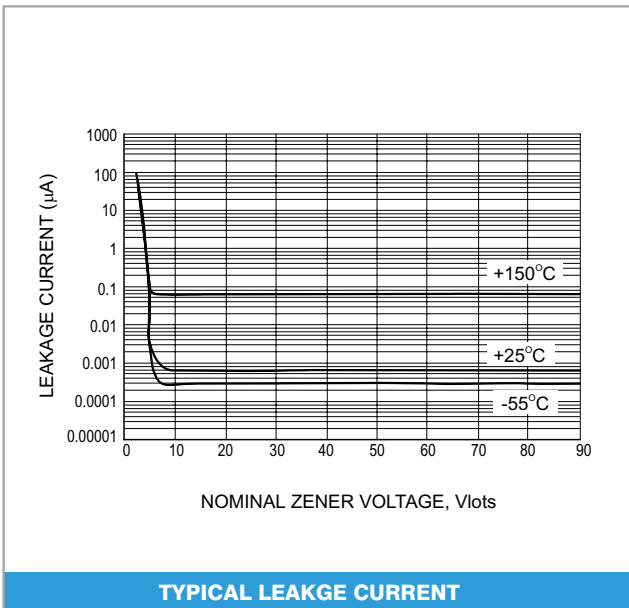
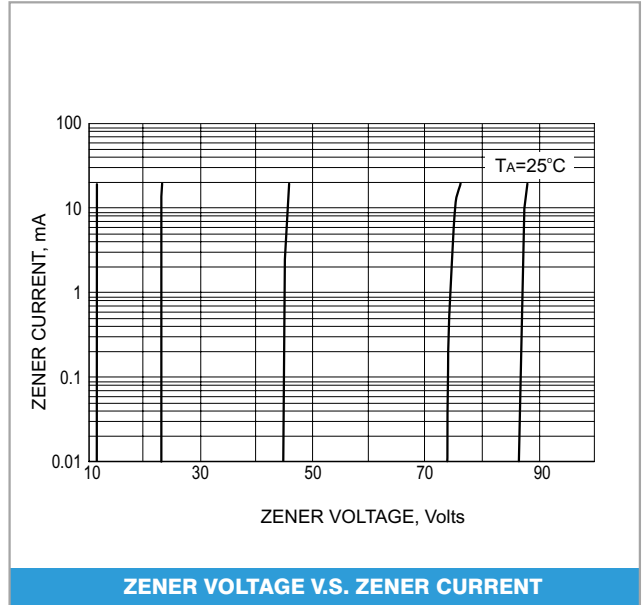
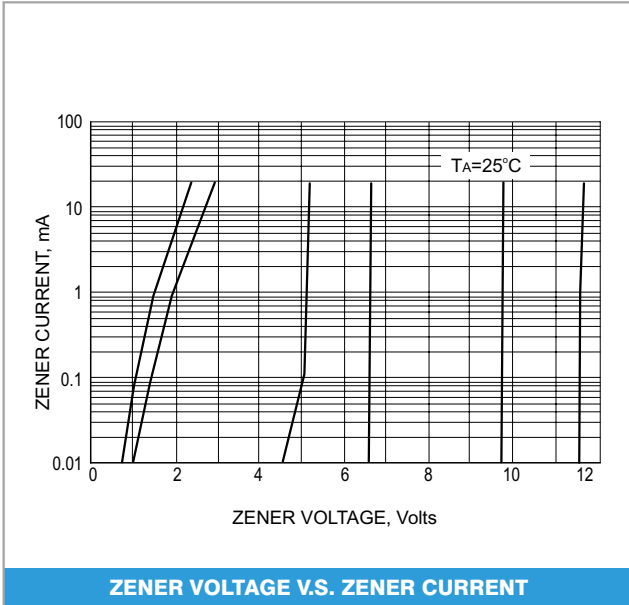
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Ordering Information :

| Device | Packing |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel: 3Kpcs/Reel |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
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- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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JONHON

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Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«**FORSTAR**» (основан в 1998 г.)

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(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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