

Russia Type Semiconductor (capsule Version)

Features

- All diffuse technics
- Ceramic disc type seal
- Middle trigger
- Bifacial cooled
- High current

Typical Applications

- Big power transformer
- AC & DC motor control
- AC & DC switch
- Phase control rectification
- Inverter ■ Welder

Ordering information Table

Device Code **T - I 43 - 800 - 16**

① ② ③ ④ ⑤

1 -D=Standard recovery diode DF=Fast recovery diode
 DL=Avalanche rectifier diode T=Phase control thyristor
 TB=Fast thyristor TC=Triac thyristor

2 -Voltage & cut time class

3 -Device outline code

4 -Current code= $I_{F(AV)}$ or $I_{T(AV)}$

5 -Voltage code=Code $\times 100=V_{RRM}$

Explanation

- I_{GT}, V_{GT}, I_H are all $T_A=25^\circ\text{C}$ test data, others are all $T_A=T_{jm}$ test data.
- $I^2t = I^2_{TSM} \times t_{1/2}$; $t_{1/2} = \text{Half sine wave current, when at 50Hz, } I^2t = 0.005 I^2_{TSM} (\text{A}^2\text{S})$
- When at 60Hz, $I_{TSM}(8.3\text{ms}) = I_{TSM}(10\text{ms}) \times 1.066$, $T_j = T_{jm}$ $I^2t(8.3\text{ms}) = I^2t(10\text{ms}) \times 0.943$, $T_j = T_{jm}$



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| Russia Type Standard Recovery Diode(Capsule version) | | | | | | | | | | | |
|--|-----------|-----------|-------------|--------------|-------------|-----------------|--------|----------|-------|-------|---------|
| Type | V_{RRM} | I_{RRM} | $I_{F(AV)}$ | $I_{F(RSM)}$ | $I_{F(SM)}$ | V_{FM}/I_{FM} | T_j | R_{jc} | M^2 | Wt | Outline |
| | | | Tc55°C | Tc70°C | 10ms | 25°C | | | | | |
| | V | mA | A | A | kA | V/A | °C | °C/W | KN | kg | |
| D123-200 | 400-3000 | 35 | 200 | 435 | 3 | 2.60/628 | -40°C | 0.08 | 6 | 0.091 | RC1 |
| D123-250 | 400-3000 | 35 | 250 | 550 | 3.5 | 2.45/785 | ~ | 0.08 | 6 | 0.091 | RC2 |
| D123-320 | 400-3000 | 35 | 320 | 650 | 4.2 | 2.25/1005 | +150°C | 0.08 | 6 | 0.091 | |
| D123-400 | 400-3000 | 35 | 400 | 960 | 5.5 | 1.90/1255 | | 0.08 | 6 | 0.091 | |
| D123-500 | 400-3000 | 35 | 500 | 1200 | 7.5 | 1.80/1570 | | 0.08 | 6 | 0.07 | |
| D123-530 | 400-3000 | 35 | 530 | 1512 | 9 | 1.30/1978 | | 0.08 | 6 | 0.07 | |
| D133-400 | 400-5000 | 50 | 400 | 1200 | 7 | 2.10/1256 | | 0.036 | 10 | 0.18 | |

| | | | | | | | | | | | | | | | | | |
|-----------|----------|-----|------|-------|------|------------|--|-------|----|------|-----|--|--|--|--|--|--|
| D133-500 | 400-5000 | 50 | 500 | 1770 | 11 | 1.70/1570 | | 0.038 | 10 | 0.18 | RC3 | | | | | | |
| D133-630 | 400-5000 | 35 | 630 | 1970 | 11 | 1.80/1978 | | 0.04 | 10 | 0.18 | | | | | | | |
| D133-800 | 400-5000 | 40 | 800 | 2520 | 12 | 1.60/2512 | | 0.038 | 10 | 0.18 | | | | | | | |
| D133-1000 | 400-5000 | 40 | 1000 | 2530 | 16 | 1.55/3140 | | 0.036 | 10 | 0.18 | | | | | | | |
| D143-630 | 400-5000 | 50 | 630 | 1695 | 10.5 | 2.10/1978 | | 0.027 | 15 | 0.24 | RC4 | | | | | | |
| D143-800 | 400-5000 | 50 | 800 | 2825 | 16 | 1.55/2512 | | 0.027 | 15 | 0.24 | | | | | | | |
| D143-1000 | 400-5000 | 65 | 1000 | 3170 | 19 | 1.55/3140 | | 0.027 | 15 | 0.24 | | | | | | | |
| D143-1250 | 400-5000 | 70 | 1250 | 3285 | 20 | 1.65/3925 | | 0.027 | 15 | 0.24 | | | | | | | |
| D243-800 | 400-5000 | 45 | 800 | 1755 | 12.5 | 1.95/2512 | | 0.03 | 15 | 0.24 | RC6 | | | | | | |
| D243-1000 | 400-5000 | 50 | 1000 | 2610 | 18 | 1.65/3140 | | 0.03 | 15 | 0.24 | | | | | | | |
| D253-1000 | 400-5000 | 100 | 1240 | 2420 | 16 | 2.00/3140 | | 0.018 | 26 | 0.55 | | | | | | | |
| D253-1250 | 400-5000 | 100 | 1480 | 2950 | 18 | 1.95/3925 | | 0.018 | 26 | 0.55 | | | | | | | |
| D253-1600 | 400-5000 | 100 | 1820 | 3455 | 22 | 1.80/5024 | | 0.018 | 26 | 0.55 | RC8 | | | | | | |
| D173-2000 | 400-5000 | 150 | 2180 | 4265 | 28 | 2.00/6280 | | 0.01 | 45 | 1.2 | | | | | | | |
| D173-2500 | 400-5000 | 150 | 2800 | 5485 | 32 | 1.95/7850 | | 0.01 | 45 | 1.2 | | | | | | | |
| D173-3200 | 400-5000 | 150 | 3200 | 6455 | 40 | 1.80/10048 | | 0.01 | 33 | 1.2 | | | | | | | |
| D173-4000 | 400-5000 | 150 | 4660 | 9200 | 50 | 1.65/12580 | | 0.011 | 45 | 1.2 | | | | | | | |
| D173-5000 | 400-5000 | 150 | 5640 | 11544 | 65 | 1.45/15700 | | 0.01 | 45 | 1.2 | | | | | | | |

Russia Type Fast Recovery Diode (Capsule Version)

| Type | V _{RRM} | I _{RRM} | I _{F(AV)} | I _{F(RSM)} | I _{F(SM)} | V _{FM} /I _{FM} | T _{rr} | Q _{rr} | T _j | R _{jc} | M ² | Wt | Outline | | | | | |
|------------|------------------|------------------|--------------------|---------------------|--------------------|----------------------------------|-----------------|-----------------|----------------|-----------------|----------------|-------|---------|--|--|--|--|--|
| | | | Tc55°C | Tc70°C | 10ms | 25°C | 100°C | 100°C | | | | | | | | | | |
| | V | mA | A | A | kA | V/A | MS | µc | °C | °C/W | KN | kg | | | | | | |
| DF323-200 | 400-3000 | 50 | 200 | 400 | 3 | 3.20/628 | ≤2 | 70 | -40°C | 0.08 | 4.5 | 0.091 | RC1 | | | | | |
| DF323-250 | 400-3000 | 50 | 250 | 500 | 4.5 | 1.95/785 | ≤3 | 70 | ~ | 0.08 | 4.5 | 0.067 | RC2 | | | | | |
| DF333-300 | 400-3000 | 50 | 300 | 600 | 6.5 | 2.30/1250 | ≤3 | 100 | +150°C | 0.04 | 10 | 0.18 | RC3 | | | | | |
| DF333-400 | 400-3000 | 40 | 400 | 628 | 6.5 | 2.50/1256 | ≤3 | 100 | | 0.04 | 10 | 0.18 | | | | | | |
| DF343-500 | 400-3000 | 50 | 500 | 785 | 10.5 | 3.00/1570 | ≤3 | 120 | | 0.035 | 15 | 0.24 | RC4 | | | | | |
| DF343-800 | 400-3000 | 40 | 800 | 1600 | 12.5 | 2.80/2500 | ≤4 | 130 | | 0.035 | 15 | 0.24 | | | | | | |
| DF343-1000 | 400-3000 | 40 | 1000 | 2000 | 14.5 | 2.30/3140 | ≤4 | 150 | | 35 | 15 | 0.24 | | | | | | |
| DF353-800 | 400-3000 | 50 | 800 | 1600 | 9.5 | 3.50/2500 | ≤4 | 130 | | 0.02 | 24 | 0.55 | RC6 | | | | | |
| DF353-1000 | 400-3000 | 100 | 1000 | 2000 | 16 | 3.20/2512 | ≤4 | 150 | | 0.02 | 24 | 0.55 | | | | | | |

| Russia Type Avalanche Rectifier Diode(Capsule Version) | | | | | | | | | | | | | | | | | |
|--|------------------|------------------|--------------------|---------------------|--------------------|---------------------------------|----------------------------------|-----------------|----------------|--------|----------------|-----------------|----------------|------|---------|--|--|
| Type | V _{RRM} | I _{RRM} | I _{F(AV)} | I _{F(RSM)} | I _{F(SM)} | i ² t | V _{FM} /I _{FM} | T _{TO} | r _T | PRSM | T _J | R _{jc} | M ² | Wt | Outline | | |
| | | | Tc55°C | Tc70°C | 10ms | | 25°C | | | 100mks | | | | | | | |
| | V | mA | A | A | kA | A ² S10 ³ | V/A | V | mΩ | kW | °C | °C/W | KN | kg | | | |
| DL123-320 | 400-1600 | 25 | 320 | 770 | 5.5 | 151 | 1.65/1000 | 0.9 | 0.83 | 16 | -40°C | 0.075 | 6 | 0.07 | RC2 | | |
| DL133-500 | 400-1600 | 25 | 500 | 1430 | 12 | 720 | 1.50/1570 | 0.85 | 0.41 | 16 | ~ | 0.04 | 10 | 0.18 | RC3 | | |
| DL153-800 | 400-2000 | 100 | 800 | | 12 | 720 | 2.50/1500 | | | 16 | +150°C | 0.02 | 24 | 0.55 | RC6 | | |
| DL153-1000 | 400-2000 | 50 | 1250 | 2240 | 13 | 1620 | 3.00/3140 | 1.3 | 0.54 | 16 | | 0.02 | 22 | 0.55 | | | |
| DL153-1250 | 1200-3200 | 50 | 1250 | 1740 | 26 | 3380 | 2.00/4000 | 1.1 | 0.35 | 16 | | 0.02 | 24 | 0.55 | | | |
| DL153-1600 | 1200-3200 | 50 | 1600 | 2980 | 26 | 3380 | 2.00/5024 | 1 | 0.3 | 16 | | 0.02 | 24 | 0.55 | | | |
| DL153-2000 | 1600-3200 | 50 | 2000 | 2650 | 30 | 4500 | 1.80/6280 | 0.9 | 0.185 | 16 | | 0.02 | 24 | 0.55 | | | |
| DL173-3200 | 2400-3200 | 100 | 3250 | 5760 | 45 | 10125 | 2.2/10053 | 1.1 | 0.124 | 16 | | 0.011 | 45 | 1.3 | RC8 | | |
| DL173-4000 | 1600-2400 | 100 | 3860 | 6870 | 50 | 12500 | 2.2/12560 | 1 | 0.08 | 16 | | 0.011 | 45 | 1.3 | | | |

| Russia Type Phase Control Thyristor (Capsule version) | | | | | | | | | | | | | | | | | |
|---|------------------|------------------|--------------------|---------------------|--------------------|----------------------------------|--------------------------------|--------------------------------|-----------------|-----------------|----------------|----------------|-----------------|----------------|----------------|---------|--|
| Type | V _{RRM} | I _{RRM} | I _{T(AV)} | I _{T(RSM)} | I _{T(SM)} | V _{TM} /I _{TM} | d _i /d _t | d _v /d _t | V _{GT} | I _{GT} | I _H | T _J | R _{jc} | T _q | M ² | Outline | |
| | | | Tc55°C | Tc70°C | 10ms | 25°C | | | | 25°C | | | | | | | |
| | V | mA | A | A | kA | V/A | A/μs | V/μs | V | mA | mA | °C | °C/W | μs | KN | | |
| T123-200 | 400-1600 | 15 | 200 | 265 | 4 | 1.90/628 | 200 | 200-1600 | 3.5 | 250 | ≤200 | -40°C | 0.08 | 250 | 6 | RC1 | |
| T123-250 | 400-1600 | 20 | 250 | 750 | 4.5 | 1.75/785 | 200 | 200-1600 | 3.5 | 250 | ≤200 | ~ | 0.08 | 250 | 6 | RC2 | |
| T123-320 | 400-1600 | 20 | 330 | 1090 | 5 | 1.65/1005 | 200 | 500-1600 | 2.5 | 250 | ≤200 | +125°C | 0.08 | 100-200 | 6 | | |
| T123-500 | 400-800 | 30 | 500 | 550 | 6 | 1.50/1570 | 200 | 500-1600 | 2.5 | 200 | ≤250 | | 0.07 | 63-125 | 6 | | |
| T133-400 | 400-1600 | 30 | 400 | 935 | 8 | 1.75/1258 | 200 | 200-1600 | 2.5 | 200 | ≤250 | | 0.045 | 250 | 10 | RC2 | |
| T133-500 | 100-800 | 50 | 500 | 1720 | 10 | 1.50/1570 | 320 | 500-1600 | 2.5 | 150 | ≤250 | | 0.035 | 160 | 10 | RC3 | |
| T233-500 | 400-1800 | 30 | 500 | 1160 | 9 | 1.80/1570 | 200 | 500-1600 | 2.5 | 250 | ≤250 | | 0.04 | 100-200 | 10 | | |
| T133-600 | 100-800 | 50 | 600 | 2085 | 12 | 1.60/2512 | 200 | 500-1600 | 2.5 | 250 | ≤250 | | 0.035 | 63-125 | 10 | | |

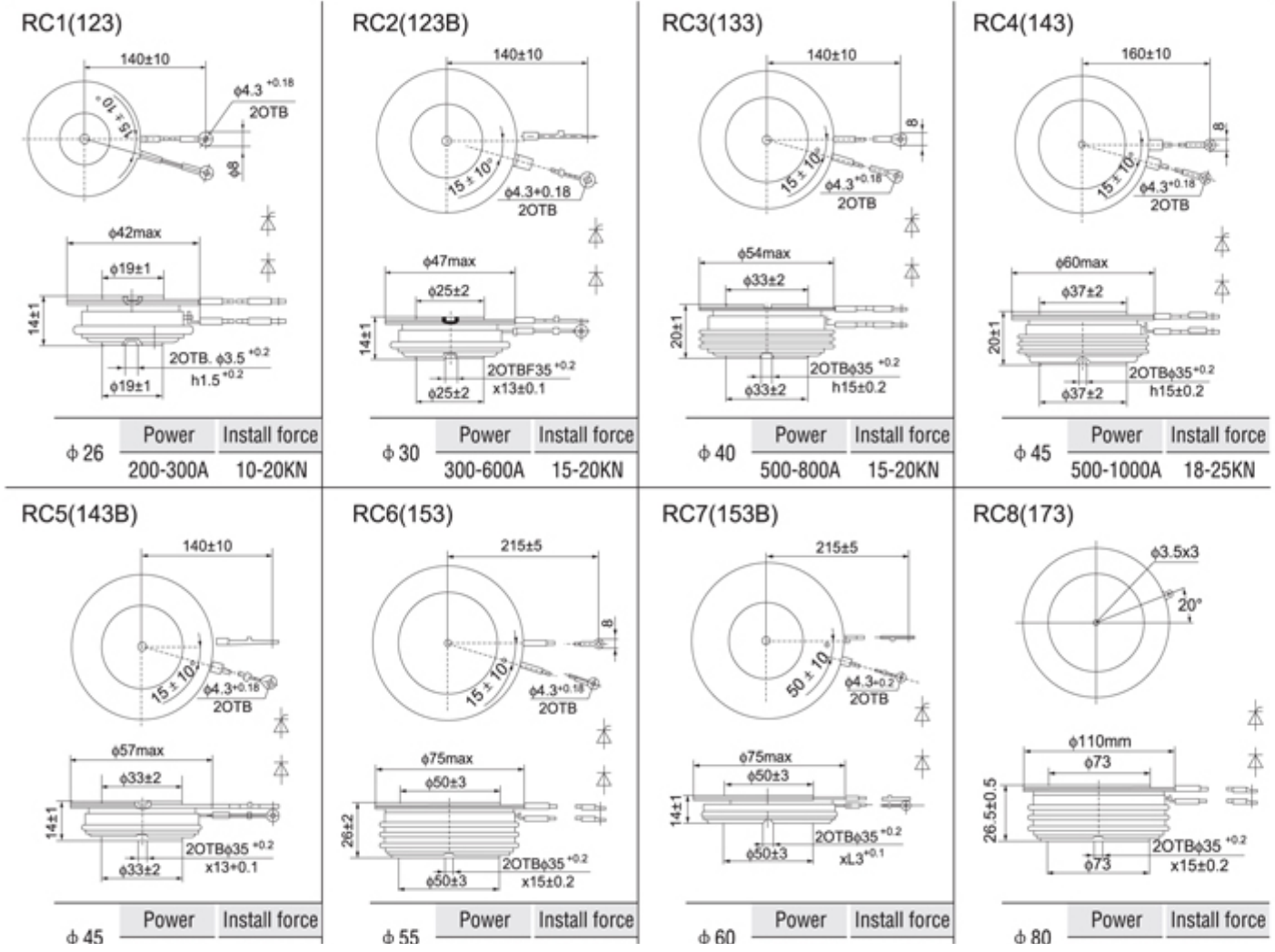
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|-----------|-----------|-----|------|------|----|------------|-----|----------|-----|-----|------|--|-------|---------|----|-----|--|
| T133-630 | 100-1200 | 40 | 630 | 1430 | 12 | 1.65/1978 | 200 | 500-1600 | 2.5 | 250 | ≤250 | | 0.04 | 80-160 | 10 | | |
| T143-500 | 400-1600 | 40 | 500 | 1175 | 11 | 1.80/1570 | 200 | 200-1600 | 3.5 | 300 | ≤250 | | 0.034 | 250 | 15 | RC4 | |
| T243-500 | 1800-3200 | 40 | 550 | 1110 | 10 | 2.00/1570 | 200 | 500-1600 | 2.5 | 250 | ≤250 | | 0.034 | 200-400 | 15 | RC5 | |
| T143-600 | 900-1800 | 70 | 640 | 1250 | 9 | 1.95/1978 | 200 | 500-1600 | 2.5 | 250 | ≤300 | | 0.032 | 100-200 | 15 | | |
| T143-1000 | 100-1200 | 50 | 800 | 1585 | 14 | 1.70/2512 | 200 | 500-1600 | 2.5 | 250 | ≤300 | | 0.032 | 200-300 | 15 | | |
| T143-1250 | 100-800 | 30 | 1045 | 1860 | 19 | 1.60/3140 | 200 | 500-1600 | 2.5 | 250 | ≤300 | | 0.03 | 80-160 | 15 | | |
| T153-800 | 100-1000 | 50 | 800 | 1840 | 20 | 1.90/2512 | 200 | 200-1600 | 3.5 | 300 | ≤300 | | 0.024 | 100-100 | 24 | RC6 | |
| T153-1250 | 100-800 | 100 | 1250 | 3000 | 18 | 1.50/4000 | 300 | 500-1600 | 3.5 | 300 | ≤300 | | 0.016 | 100-100 | 24 | RC7 | |
| T153-1600 | 100-800 | 100 | 1600 | 3500 | 22 | 1.45/5000 | 300 | 500-1600 | 3.5 | 200 | ≤300 | | 0.016 | 100-140 | 24 | | |
| T253-500 | 5200-6000 | 150 | 530 | 1175 | 10 | 2.40/1570 | 100 | 500-1600 | 3.5 | 200 | ≤300 | | 0.026 | 100-400 | 24 | | |
| T253-800 | 2000-2400 | 70 | 800 | 1470 | 17 | 2.10/2500 | 200 | 200-1600 | 3.5 | 350 | ≤300 | | 0.02 | 100-140 | 24 | | |
| T253-1000 | 1000-1800 | 70 | 1000 | 2300 | 22 | 1.80/3140 | 200 | 200-1600 | 3.5 | 300 | ≤300 | | 0.02 | 100-140 | 24 | | |
| T253-1250 | 400-1800 | 70 | 1250 | 1830 | 28 | 1.60/3925 | 200 | 200-1600 | 3.5 | 300 | ≤300 | | 0.018 | 100-140 | 24 | | |
| T173-2000 | 1600-2000 | 200 | 2000 | 4600 | 49 | 1.65/6280 | 320 | 500-1600 | 3.5 | 300 | ≤300 | | 0.011 | 100-140 | 24 | RC8 | |
| T173-2500 | 200-2400 | 100 | 2700 | 5750 | 52 | 1.70/7850 | 200 | 500-1600 | 3.5 | 350 | ≤300 | | 0.01 | 100-140 | 24 | | |
| T173-3200 | 200-2400 | 200 | 3360 | 7360 | 60 | 1.50/10050 | 320 | 500-1600 | 3.5 | 300 | ≤300 | | 0.01 | 100-140 | 24 | | |
| T173-4000 | 200-2400 | 200 | 4000 | 9200 | 62 | 1.50/12560 | 200 | 500-1600 | 3.5 | 300 | ≤300 | | 0.01 | 100-140 | 45 | | |

Russia Type Triac Thyristor(Capsule Version)

| Type | V _{RRM} | I _{RRM} | I _{T(AV)} | I _{T(SM)} | V _{TM} /I _{TM} | d _i /d _t | d _v /d _t | V _{GT} | I _{GT} | I _H | T _j | R _{jc} | M ² | Wt | Outline |
|------------|------------------|------------------|--------------------|--------------------|----------------------------------|--------------------------------|--------------------------------|-----------------|-----------------|----------------|----------------|-----------------|----------------|------|---------|
| | | | Tc55°C | 10ms | 25°C | | | | 25°C | | | | | | |
| | V | mA | A | kA | V/A | A/μs | V/μs | V | mA | mA | °C | °C/W | KN | kg | |
| TC123-200 | 200-1600 | 25 | 200 | 1.2 | 2.50/320 | 25 | 6.3-100 | 3 | 300 | ≤300 | -40°C | 0.037 | 10 | 0.1 | RC2 |
| TC123-300 | 200-1600 | 25 | 300 | 1.6 | 2.20/500 | 25 | 6.3-100 | 3 | 300 | ≤300 | ~ | 0.037 | 10 | 0.1 | |
| TC133-500 | 200-1600 | 25 | 500 | 3 | 2.50/700 | 25 | 6.3-100 | 3 | 300 | ≤300 | +125°C | 0.04 | 10 | 0.18 | RC3 |
| TC133-630 | 200-1600 | 25 | 630 | 3.3 | 2.20/800 | 63 | 6.3-100 | 3 | 300 | ≤300 | | 0.37 | 10 | 0.18 | |
| TC143-800 | 200-1600 | 25 | 800 | 4.5 | 1.95/120 | 25 | 6.3-100 | 3 | 300 | ≤300 | | 0.03 | 10 | 0.24 | RC4 |
| TC143-1000 | 200-1600 | 25 | 1000 | 5 | 1.75/140 0 | 25 | 6.3-100 | 3 | 300 | ≤300 | | 0.028 | 10 | 0.24 | |

| Russia Type Fast Thyristor(Capsule Version) | | | | | | | | | | | | | | | | | |
|---|------------------|------------------|--------------------|---------------------|--------------------|----------------------------------|--------------------------------|--------------------------------|-----------------|-----------------|----------------|----------------|-----------------|----------------|----------------|---------|--|
| Type | V _{RRM} | I _{RRM} | I _{T(AV)} | I _{T(RSM)} | I _{T(SM)} | V _{TM} /I _{TM} | d _i /d _t | d _v /d _t | V _{GT} | I _{GT} | I _H | T _j | R _{jc} | T _q | M ² | Outline | |
| | | | Tc55°C | Tc70°C | 10ms | 25°C | | | | 25°C | | | | | | | |
| | V | mA | A | A | kA | V/A | A/μs | V/μs | V | mA | mA | °C | °C/W | μs | KN | | |
| TB323-400 | 300-1400 | 40 | 400 | 628 | 6.5 | 2.7/1250 | 500 | 500-1000 | 3.5 | 300 | ≤200 | -40°C | 0.035 | 12.5,16,32,40 | 10 | RC2 | |
| TB333-500 | 300-1400 | 40 | 500 | 785 | 7.5 | 2.2/1570 | 500 | 500-1000 | 3.5 | 300 | ≤200 | ~ | 0.035 | 16,20,25,32,40 | 10 | RC3 | |
| TB343-500 | 500-1000 | 50 | 500 | 785 | 9 | 2.6/1570 | 500 | 500-1000 | 3.5 | 300 | ≤200 | +125°C | 0.028 | 25,2,40 | 15 | RC4 | |
| TB143-630 | 500-1400 | 50 | 630 | 990 | 10.5 | 2.1/2000 | 500 | 500-1000 | 3.5 | 300 | ≤300 | | 0.028 | 25,32,40,50 | 15 | | |
| TB153-630 | 600-1400 | 100 | 630 | 990 | 1.5 | 2.4/2000 | 630 | 1000-1600 | 3.5 | 400 | ≤300 | | 0.021 | 20,25,32,40,50 | 24 | RC5 | |
| TB453-800 | 600-1400 | 100 | 800 | 1250 | 15 | 2.3/2500 | 630 | 1000-1600 | 3.5 | 400 | ≤300 | | 0.021 | 25,32,40,50,63 | 24 | | |
| TB143-500" | 1400-2400 | 70 | 500 | 800 | 9 | 2.5/1570 | 500 | 500-1000 | 2.5 | 300 | ≤200 | | 0.035 | 25,32,40,50,63 | 15 | RC4 | |
| TB553-800" | 1400-2400 | 120 | 800 | 1250 | 17 | 2.8/2500 | 630 | 500-1000 | 2.5 | 400 | ≤400 | | 0.021 | 25,32,40,50,63 | 24 | RC6 | |
| TB453-1000" | 600-1400 | 100 | 1000 | 1600 | 16 | 2.5/3140 | 630 | 1000-1600 | 3.5 | 400 | ≤400 | | 0.021 | 40,50,63 | 24 | | |
| TB273-2000" | 1400-2400 | 120 | 2000 | 3200 | 40 | 1.85/6280 | 1000 | 500-1000 | 5 | 400 | ≤400 | | 0.021 | 40,50,63 | 45 | RC8 | |

Russia Type Capsule Version Outline



| ϕ 45 | Power | Instal force |
|-----------|-----------|--------------|
| | 500-1000A | 18-25KN |

| ϕ 55 | Power | Instal force |
|-----------|------------|--------------|
| | 1000-2000A | 20-30KN |

| ϕ 60 | Power | Instal force |
|-----------|------------|--------------|
| | 1000-2000A | 30-40KN |

| ϕ 80 | Power | Instal force |
|-----------|------------|--------------|
| | 2000-4000A | 35-40KN |