

## Surface Mount, Wire Wound Resistor BRW series

### Descriptions

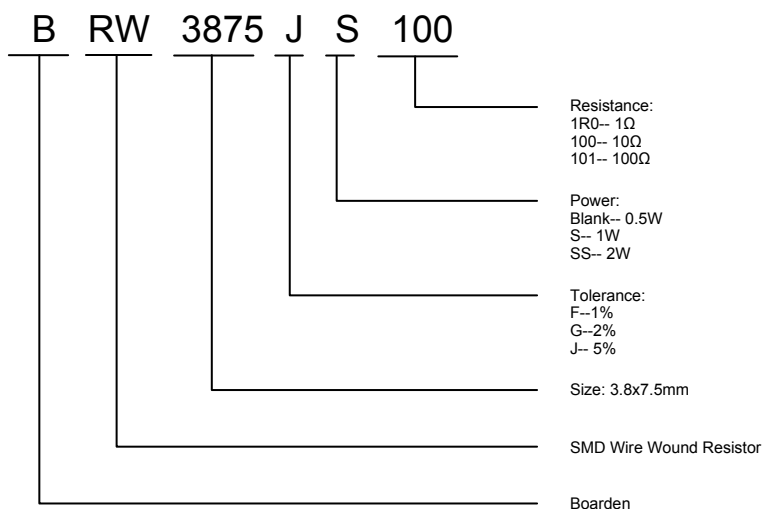
A wire wound resistor is a resistor where a wire with a high resistivity is wrapped around an insulating core to provide the resistance. The resistors are commonly designed as axial package or cylinder without leads, which are not suitable for SMT.

The BRW series are designed as SMD package which are most suitable for SMT. The BRW3875 products have high power dissipation in a small package (7.5\*3.8\*3mm), very suitable for high power applications with low temperature rise. In addition, the device have perfect surge-proof performance, so that can be a significant component in the surge protection circuits.

### Features

- Best suitable for SMT
- Fast fusing above six times rated current without any fire or explosion.
- Surface touch without resistance wire damage
- Perfect surge-proof performance
- High power dissipation in small design
- Excellent weldability
- Reducing assembling cost
- UL94V-0 flammability rating
- Halogen free and RoHS compliant

### Part Numbering System



### Applications

- LED
- Automotive electronics
- Industrial electronics
- Power supplies
- White goods
- Pre-charged applications

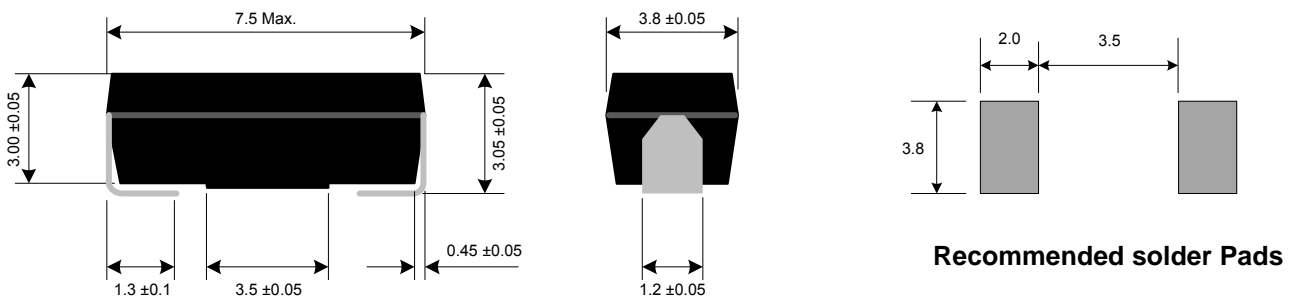
### Order Information

Device	Qty per Box	Tape
BRW3875 series	2000	13" Reel

### Electrical Characteristics

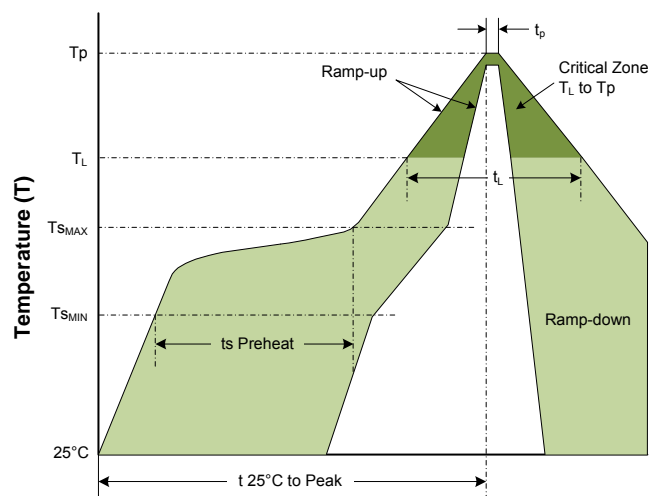
Parameter	Condition	Value	Unit
Nominal Power Rating	40°C	0.5~2	W
Resistance Range		0.1 ~ 300	Ω
Tolerances		1(F), 5(J)	± %
Fusing Characteristic	$6\sqrt{P/R}$	≤60	s
Surge Capacity	1.2/50 & 8/20μs 10Hits	700	V
Temperature Coefficient		≤350	± PPM/°C
Max. Rated Operating Temperature		125	°C
Temperature Range		-55 ~ 150	°C
Dielectric Withstanding Voltage		1000	V <sub>RMS</sub>
Max. Working Voltage		$\sqrt{P_{70} * R}$	V <sub>RMS</sub>

### Product Dimensions (mm)



### Soldering Parameters

Profile Feature	Lead-Free Assembly
Average Ramp-up Rate (T <sub>S</sub> MAX to T <sub>p</sub> ) Average Ramp-down Rate (T <sub>p</sub> to T <sub>L</sub> )	3°C/second max. 6°C/second max.
<b>Preheat</b> • Temperature Min (T <sub>S</sub> MIN) • Temperature Max (T <sub>S</sub> MAX) • Time (t <sub>s</sub> Preheat)	150°C 200°C 60-180 seconds
<b>Time maintained above:</b> • Temperature (T <sub>L</sub> ) • Time (t <sub>L</sub> )	217°C 60-150 seconds
<b>Peak/Classification Temperature</b> • Temperature (T <sub>p</sub> )	260 <sup>+0/-5</sup> °C
<b>Time within 5°C of actual Peak</b> Time (t <sub>p</sub> )	20-40 seconds
<b>Time 25°C to peak Temperature</b>	8 minutes max
<b>Do not exceed</b>	280 °C



**Performances**

Test Item	Requirement	Test Method	Standards
Temperature coefficient	$\leq  \pm 350 \text{PPM}/^{\circ}\text{C} $	-55°C~+125°C, 25°C is the reference temperature.	JIS C 5201 (4.8)
Short Time Overload	$\pm(1\%R+0.05\Omega)$	Rated voltage $\times$ 2.5 times for 5 seconds.	JIS C 5201 (4.13)
Temperature Cycle	$\pm(1\%R+0.05\Omega)$	-55°C/30min, Room temp. 10-15min -85°C/30min, Room temp. 10-15min 5 cycles	JIS C 5201 (4.19)
Pulse Overload	$\pm(1\%R+0.05\Omega)$	Rated voltage $\times$ 2.5 times, 10000 cycles (1s ON, 25s OFF)	SJ2865 (1.8.2)
Damp Heat with Load	$\pm(5.0\%+0.05\Omega)$	40 $\pm$ 2°C, 90~95% R.H. Max. Working voltage for 1,000 hrs. with 1.5 hrs. "ON" and 0.5 hrs. "OFF".	JIS C 5201 (4.24)
Endurance	$\pm(5.0\%+0.05\Omega)$	70 $\pm$ 2°C, Max. Working voltage for 1,000 hrs. with 1.5 hrs."ON" and 0.5 hrs. "OFF".	JIS C 5201 (4.25)
Solder Ability	95% min. coverage	260 $\pm$ 10°C for 3 seconds.	JIS C 5201 (4.17)
Resistance to soldering heat	$(\pm 1\%+0.05\Omega)$	350 $\pm$ 10°C for 10 seconds	JIS C 5201 (4.18)
Voltage Proof	No breakdown or flashover	500V for 1 minute.	JIS C 5201 (4.7)
Insulation Resistance	>1,000M $\Omega$	500V for 1 minute.	JIS C 5201 (4.6)

© 2018 Boarden Electronics Ltd.

Specifications are subject to change without notice.

Website: [www.boarden.com.cn](http://www.boarden.com.cn)

Tel: 86-21-61401058

Fax: 86-21-61730538