

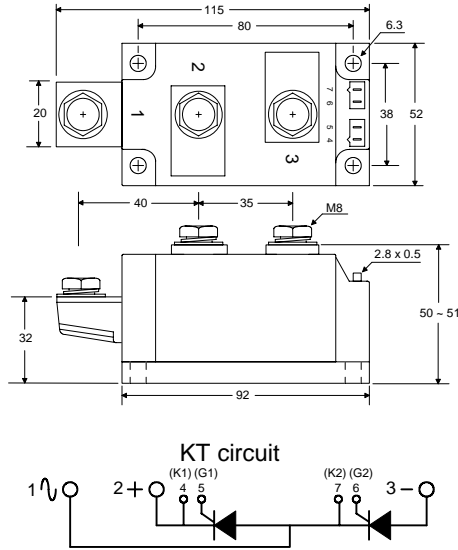
Part number scheme

**PS KT 250 N 16 CPX**  
1 2 3 4 5 6

- 1) Power Semiconductors initials
- 2) Circuit designation
- 3) Series number
- 4) Designates standard recovery time
- 5) Voltage Multiplier (example: 16 x 100 = 1600 Volts)
- 6) Proprietary suffix

### Features:

- ✓ All diffused silicone junctions.
- ✓ Standard recovery time for phase control applications.
- ✓ Module package.
- ✓ Thick copper base plate.
- ✓ Isolated cooling, rated up to 3500 V<sub>RMS</sub>
- ✓ Easy mounting to heat sink
- ✓ Heat sink grounded.



### Voltage

Parameter	Symbol	Rating	Units
Maximum Repetitive Off-State Voltage <small>Notes: 1, 3, 4, 5, 6, 7</small>	V <sub>DRM</sub>	1200 ~ 1800	Volts
Maximum Repetitive Reverse Voltage <small>Notes: 1, 3, 4, 5, 6</small>	V <sub>RRM</sub>	1200 ~ 1800	Volts
Maximum non repetitive Surge of Reverse Voltage <small>Notes: 2, 3, 4, 5, 6</small>	V <sub>RSM</sub>	V <sub>RRM</sub> + 100	Volts
Critical rate of rising off-state Voltage, Linear to 80% of V <sub>DRM</sub> <small>Note: 2</small>	dv/dt	500	V/μs
<small>Note 1: T<sub>J</sub> 25°C. Note 2: T<sub>J</sub> 125°C. Note 3: Measured at the peak of the sine wave, Note 4: Below 0°C derate V<sub>DRM</sub> and V<sub>RRM</sub> 10%. Note 5: V<sub>DRM</sub> and V<sub>RRM</sub> have I<sub>DRM</sub>, I<sub>RRM</sub> of up to 20mA. Note 6: V<sub>DR</sub> and V<sub>RR</sub> have typical I<sub>DR</sub>, I<sub>RR</sub> of 2-3mA. Note 7: For DC applications derate V<sub>DRM</sub> 45%.</small>			
<small>Specifying voltage: 1400V, PSKT250N14 1800V, PSKT250N18 1200V, PSKT250N12 1600V, PSKT250N16 Above 1800V inquire about availability.</small>			

### Gate

Parameter	Symbol	Rating			Units
		Temp.	Typ.	Max.	
Gate Trigger Voltage <small>Note 3</small>	V <sub>GT</sub>	-20° C	2.3 ~ 3.5	3.5	Volts
		25° C	1.9 ~ 2.3		
		125° C	1.8 ~ 2.2		
Maximum Gate Trigger Current <small>Notes 1,3</small>	I <sub>GT</sub>		350		mA
Minimum Forward Current to Latch on-state <small>Notes 1, 5</small>	I <sub>L</sub>		500		mA
Maximum permissible Gate Voltage not to Trigger <small>Notes 1,3</small>	V <sub>GDM</sub>		250		mV
Maximum permissible Gate Current not to Trigger <small>Notes 1, 3</small>	I <sub>GDM</sub>		5		mA
Maximum peak non repetitive Gate Voltage <small>Notes 2, 3</small>	V <sub>GM</sub>		8		Volts
Maximum Negative Gate Voltage <small>Notes 2, 4</small>	-V <sub>GM</sub>		5		Volts
Maximum non repetitive Gate Current <small>Notes 2, 3</small>	I <sub>GM</sub>		3		Amperes
Maximum Repetitive Gate Current <small>Notes 2, 3</small>	I <sub>GRM</sub>		1		Amperes
Average Gate Power (recommended) <small>Note 2, 3</small>	P <sub>G(AVE)</sub>		0.9 ~ 2.0		Watts
<small>Note 1: T<sub>J</sub> 25°C. Note 2: T<sub>J</sub> 125°C. Note 3: Rectangular pulse, t<sub>p</sub> ≤ 8.3 ms. Note 4: Rectangular -V<sub>DC</sub> pulse, t<sub>p</sub> ≤ 8.3 ms. Note 5: Test conditions: I<sub>DC</sub> R<sub>L</sub> = 12Ω.</small>					

### Amperage

Parameter	Symbol	Rating	Units
Maximum, Average, On state, Current <small>Notes: 1, 2</small>	I <sub>T(AVE)</sub>	250	Amperes
Maximum, RMS, On state, Current <small>Notes: 1, 3</small>	I <sub>T(RMS)</sub>	395	Amperes
Maximum non repetitive, Surge, On state, Current, with no reverse voltage reapplied.	I <sub>TSM</sub> 0% V <sub>RRM</sub>	3.9	kA
Maximum non repetitive, Surge, On state, Current, with maximum reverse voltage reapplied. <small>Notes: 2, 4</small>	I <sub>TSM</sub> 100% V <sub>RRM</sub>	2.8	kA
Critical rate of rising On-state Current, non repetitive <small>Note: 6, 7</small>	di/dt	150	A/μs
Holding Current <small>Notes: 1, 5</small>	I <sub>H</sub>	30-100	mA
Maximum On State Voltage drop	V <sub>TM</sub>	1.65	V
I <sub>DRM</sub> = Maximum (threshold), Repetitive, Off-State, Current. <small>Note: 1</small>	I <sub>DRM</sub> & I <sub>RRM</sub>	20	mA
I <sub>RRM</sub> = Maximum (threshold), Repetitive, Reverse, Current. <small>Note: 1</small>			
Fuse's absolute maximum I <sup>2</sup> t with no reverse voltage	I <sup>2</sup> t, 0% V <sub>RR</sub>	69	kA
Fuse's absolute maximum I <sup>2</sup> t with up to 80% of V <sub>RRM</sub>	I <sup>2</sup> t, ≤ 80% V <sub>RRM</sub>	48.8	kA
<small>Note 1: T<sub>J</sub> 55°C, Air Cooled Note 2: 120° Conduction, 60 Hz, Sinewave Note 3: 180° Conduction, 60 Hz, Sinewave Note 4: Test conditions I<sub>DC</sub> R<sub>L</sub> = 12Ω Note 5: Switching from V<sub>DRM</sub> &lt; 1000V Note 6: In addition to 0.2μF and 20Ω snubber circuit</small>			