

Chip POSISTOR[®]

PRF18 series for Overheat Sensing



(0603 size)



PRF

Part Number	Charac.	Resistance (at +25deg.C)	Sensing Temp. (at 4.7 kohm)	Sensing Temp. (at 47 kohm)	Maximum Voltage	Operating Temp.
PRF18AS471QB1RB *	AS	470 ohm +/-50%	145 +/- 5 deg.C	--	32 VDC	-20 to +160 deg.C
PRF18AR471QB1RB *	AR		135 +/- 5 deg.C	150 +/- 7 deg.C		-20 to +160 deg.C
PRF18BA471QB1RB *	BA		125 +/- 5 deg.C	140 +/- 7 deg.C		-20 to +150 deg.C
PRF18BB471QB1RB *	BB		115 +/- 5 deg.C	130 +/- 7 deg.C		-20 to +140 deg.C
PRF18BC471QB1RB *	BC		105 +/- 5 deg.C	120 +/- 7 deg.C		-20 to +130 deg.C
PRF18BD471QB1RB *	BD		95 +/- 5 deg.C	110 +/- 7 deg.C		-20 to +120 deg.C
PRF18BE471QB1RB *	BE		85 +/- 5 deg.C	100 +/- 7deg.C		-20 to +110 deg.C
PRF18BF471QB1RB	BF		75 +/- 5 deg.C	90 +/- 7 deg.C		-20 to + 100 deg.C
PRF18BG471QB1RB	BG		65 +/- 5 deg.C	80 +/- 7 deg.C		-20 to + 90 deg.C
PRF18BB471RB1RB	BB	470 ohm +/-50%	115 +/- 3 deg.C	--	32 VDC	-20 to +130 deg.C
PRF18BC471RB1RB	BC		105 +/- 3 deg.C	--		-20 to +120 deg.C
PRF18BD471RB1RB	BD		95 +/- 3 deg.C	--		-20 to +110 deg.C
PRF18BE471RB1RB	BE		85 +/- 3 deg.C	--		-20 to +100 deg.C

* : certified by UL (file: UL1434)

**Best fitting
for SII S-8264A !**

Part Number	Charac.	Resistance (at +25deg.C)	Sensing Temp. (at 4.7 Mohm)	Maximum Voltage	Operating Temp.
PRF18BA103QB1RB	BA	10 kohm +/-50%	130 +/- 5 deg.C	32 VDC	-20 to +140 deg.C

Data here are reference only. Specification available upon request. Products to be evaluated, confirmed by the user before actual use. Description here may be revised without notice.

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Chip POSISTOR[®]

PRF15 series for Overheat Sensing

(0402 size)



PRF

**Best fitting
for SII S-8264A !**

Part Number	Charac.	Resistance (at +25deg.C)	Sensing Temp. (at 4.7 Mohm)	Maximum Voltage	Operating Temp.
<u>PRF15BB103RB6RC</u>	BB	10 kohm +/-50%	130 +/- 3 deg.C	32 VDC	-20 to +140 deg.C
<u>PRF15BE103RB6RC</u>	BE		100 +/- 3 deg.C		-20 to +110 deg.C
<u>PRF15BG103RB6RC</u>	BG		80 +/- 3 deg.C		-20 to +90 deg.C

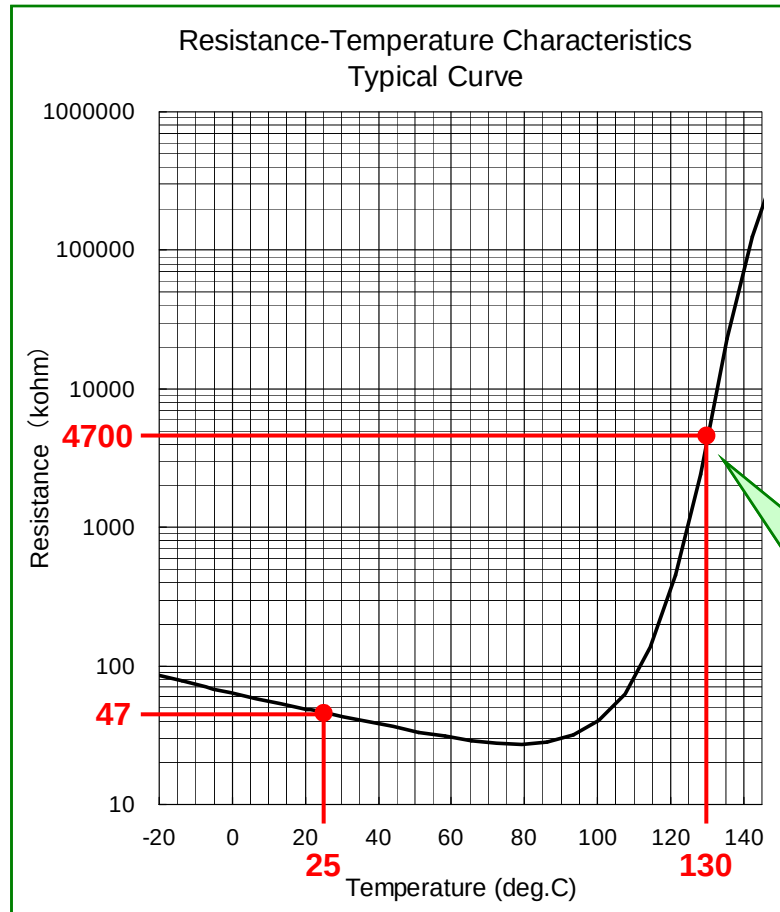
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Chip POSISTOR[®]

Resistance-Temperature Characteristics



of PRF18BA473QB1RB



Resistance at 25deg.C:

47 kohm +/-50%

Sensing Temp. (at 4.7 Mohm):

130 +/- 5 deg.C

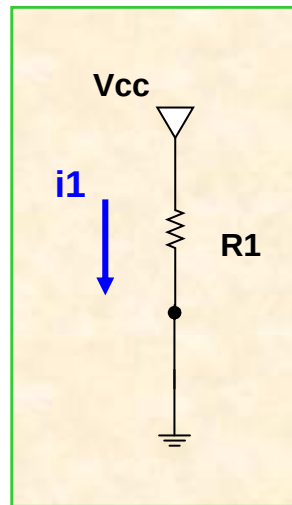
PRF

The Sensing Resistance at 130deg.C is 4.7Mohm, such high resistance provides low current consumption of the Overheat Sensing Circuit.

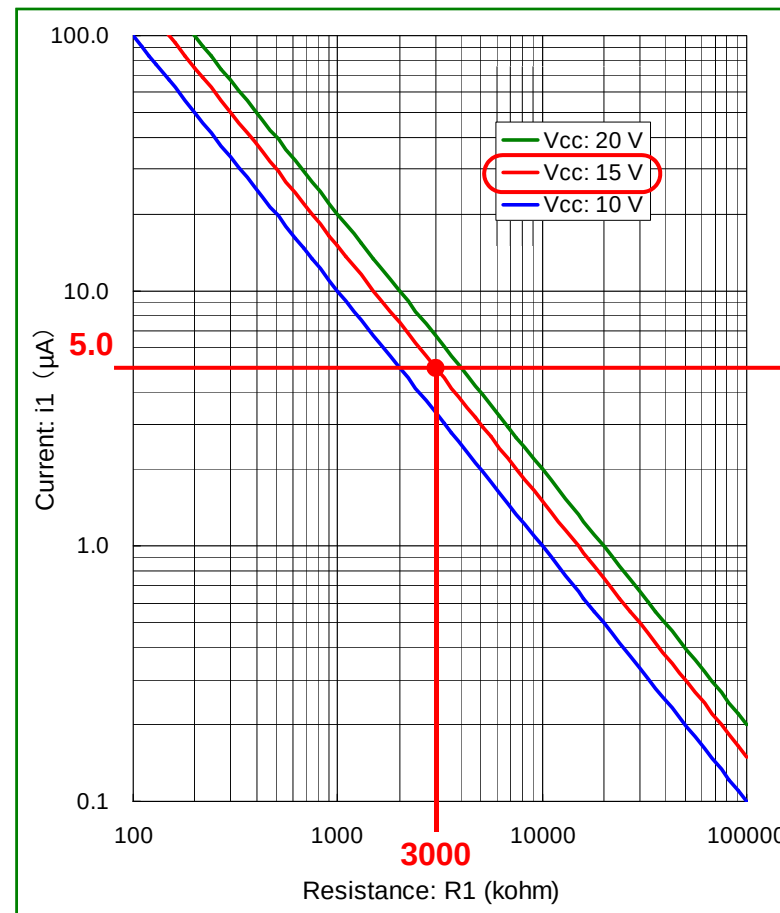
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How Much Resistance Needs ?

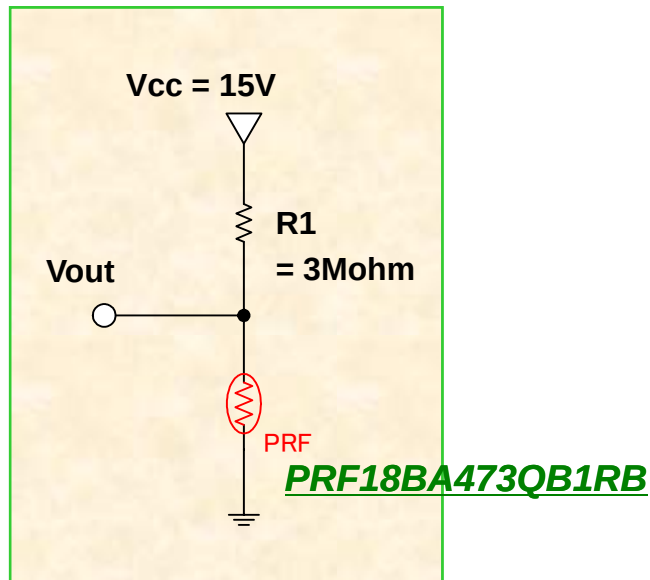


Resistor ($R1$) has to be more than 3Mohm, in order to keep the current ($i1$) under $5\mu A$ when 15V of voltage is applied.



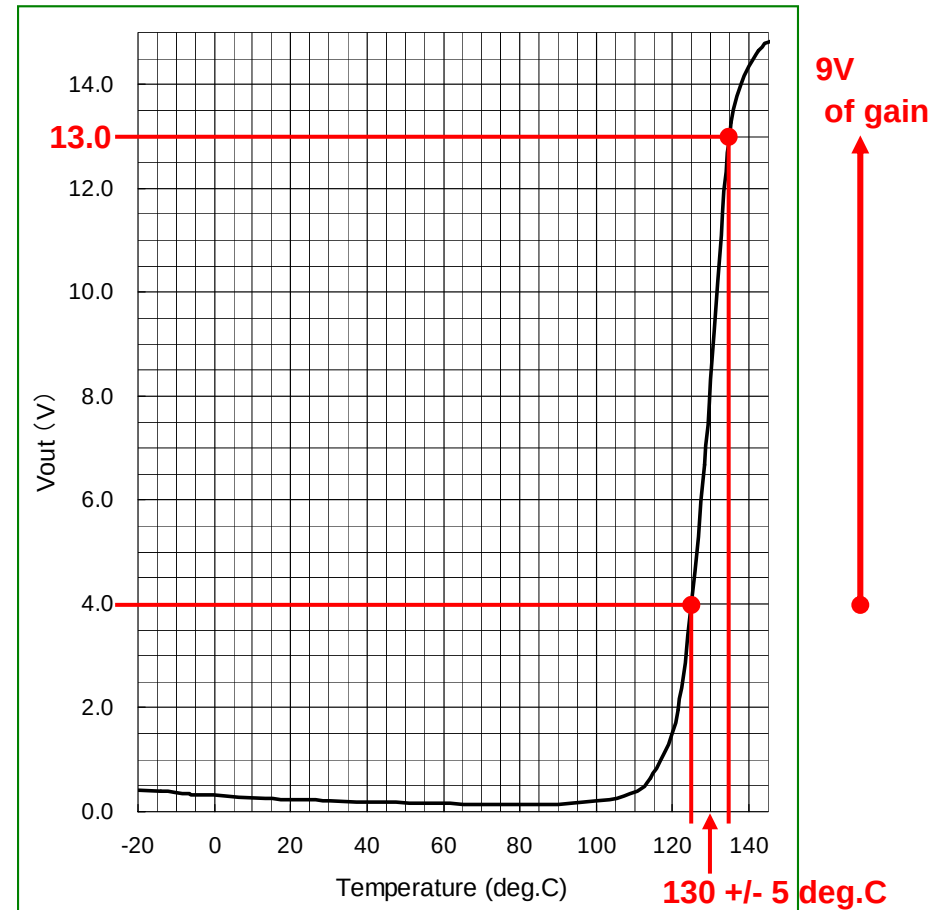
Output Voltage (Vout) Simulation

at Overheat Sensing Circuit, using **PRF18BA473QB1RB**



PRF

This circuit can output approx. 9V of voltage gain from 125 deg.C to 135 deg.C.



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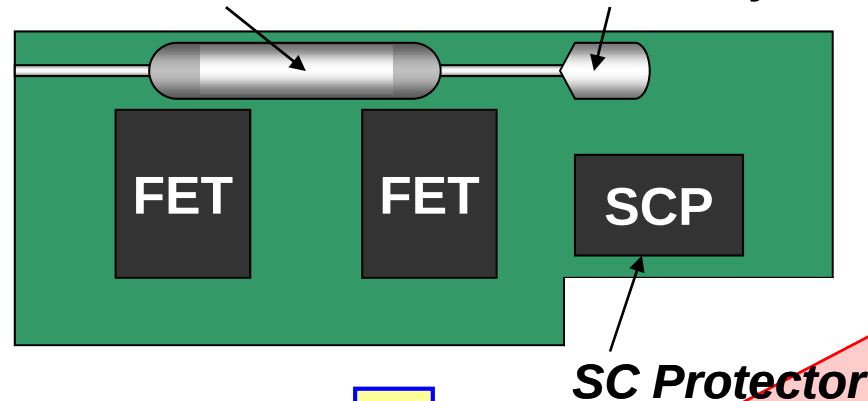
Features of Chip POSISTOR[®]



Temp. Fuse (up to 8A)

Solder by Iron

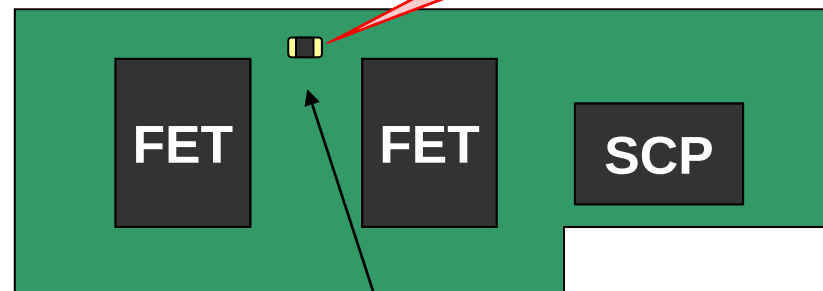
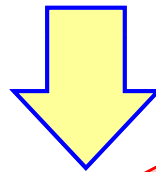
instead of Temp. Fuse



PRF

Chip POSISTOR[®]: *PRF* provides...

- # Surface mounting on board
- # Downsizing: area & height
- # Total cost saving



**Chip POSISTOR[®]:
*PRF series***

Using with **SC Protector**,
the secondary protection circuit;
Over-current protection
Overcharge protection
& Overheat protection of FETs,
is fully completed !!

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