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

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.
PRF15BB103RB6RC	BB	10 kohm +/-50%	**130 +/- 3 deg.C**	32 VDC	-20 to +140 deg.C
PRF15BE103RB6RC	BE		**100 +/- 3 deg.C**		-20 to +110 deg.C
PRF15BG103RB6RC	BG		**80 +/- 3 deg.C**		-20 to +90 deg.C

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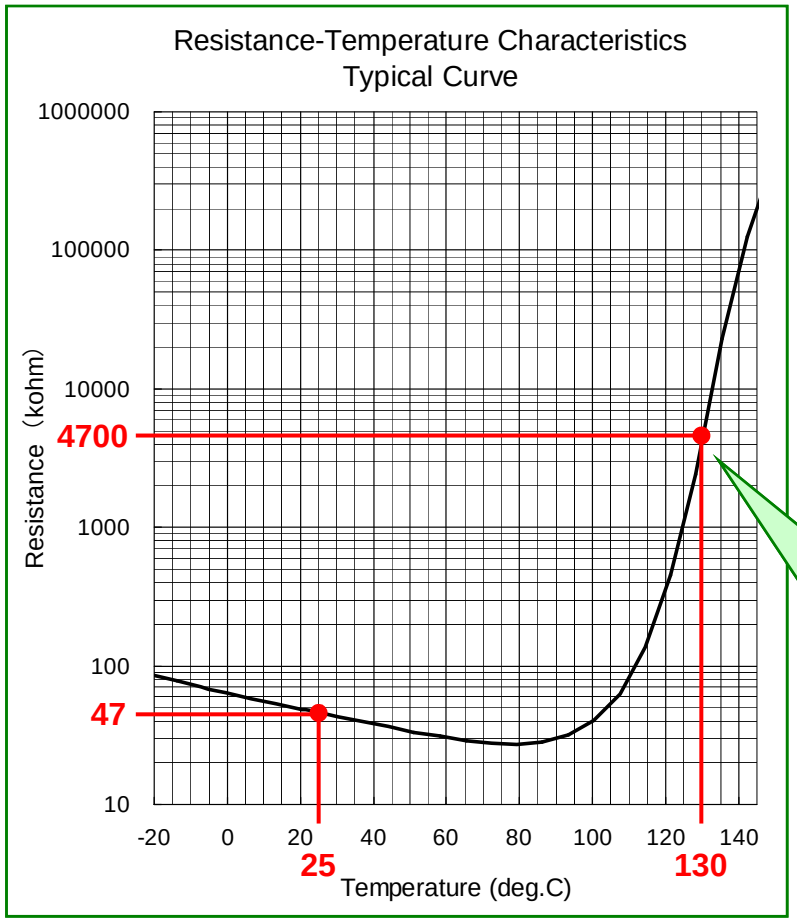
Resistance-Temperature Characteristics of *PRF18BA473QB1RB*



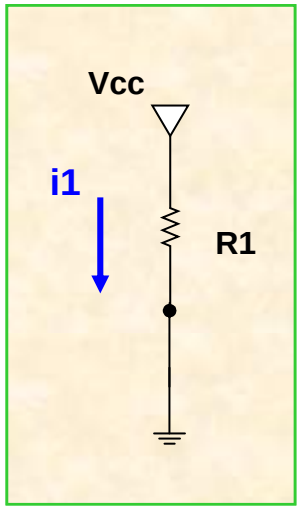
 # Resistance at 25deg.C:
47 kohm +/-50%

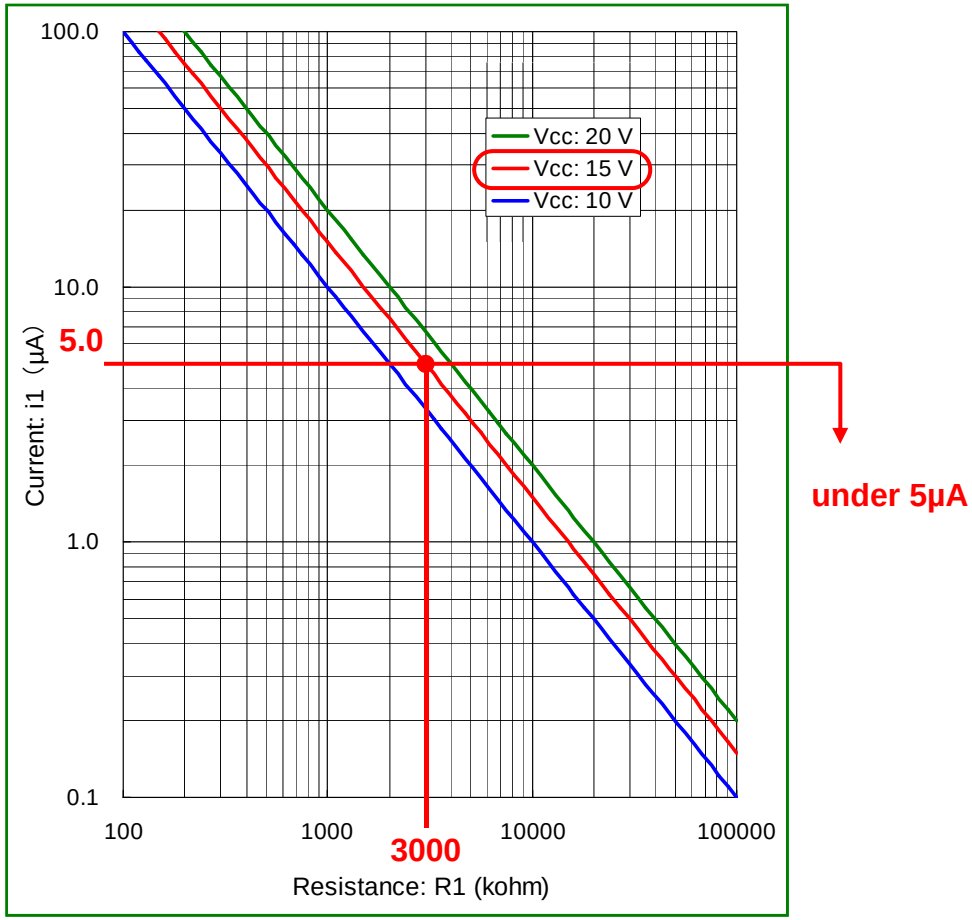
 # Sensing Temp. (at 4.7 Mohm):
130 +/- 5 deg.C

PRF

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

How Much Resistance Needs ?

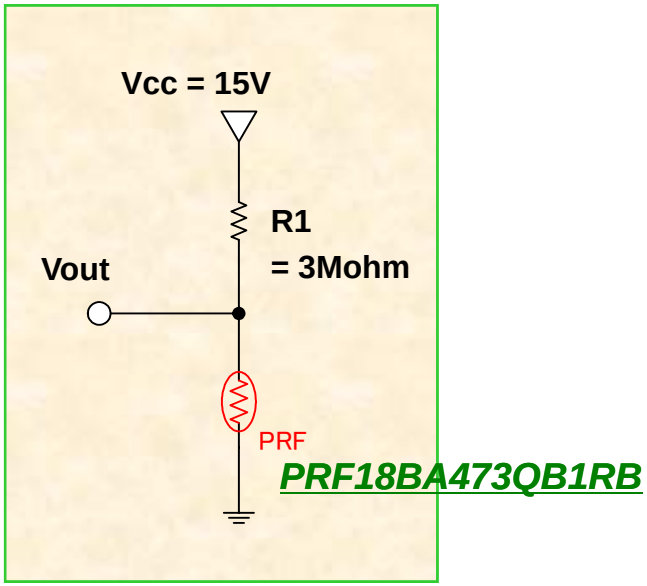


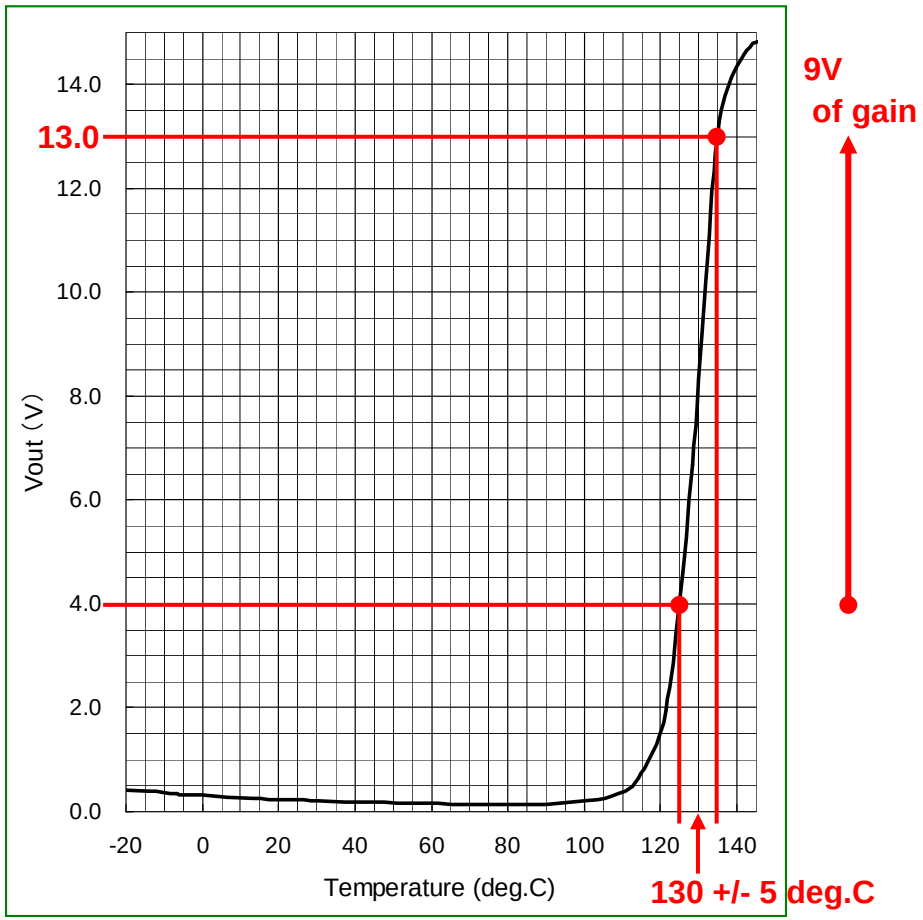


Resistor (R1) has to be more than 3Mohm, in order to keep the current (i1) under 5µA when 15V of voltage is applied.

Output Voltage (Vout) Simulation

at Overheat Sensing Circuit, using PRF18BA473QB1RB





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

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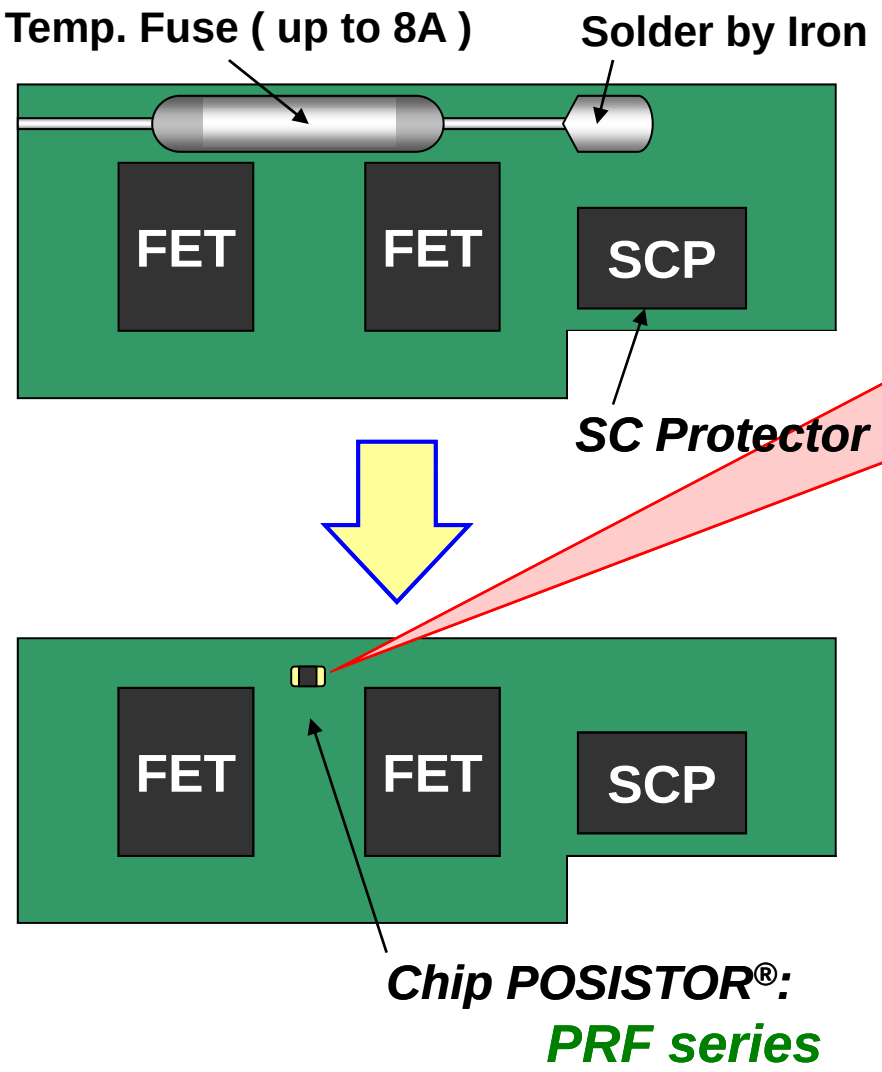
Features of Chip POSISTOR ®



instead of Temp. Fuse

PRF

***Chip POSISTOR®: PRF* provides…**

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

Using with *SC Protector*,
the secondary protection circuit;

Over-current protection
Overcharge protection
& Overheat protection of FETs,

is fully completed !!