TLC Electronic	Current Sensing Resistors	DOC.NO.: ISS:SRC39 Series

INDIVIDUAL SPECIFICATION SHEET

Product Name: Current Sensing Resistors

Part Number:SRC39 Series

Revision: A

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Rev.	Effective Date	Changed Contents
A	2019-9-05	New release

PREPEARED BY	APPROVED BY

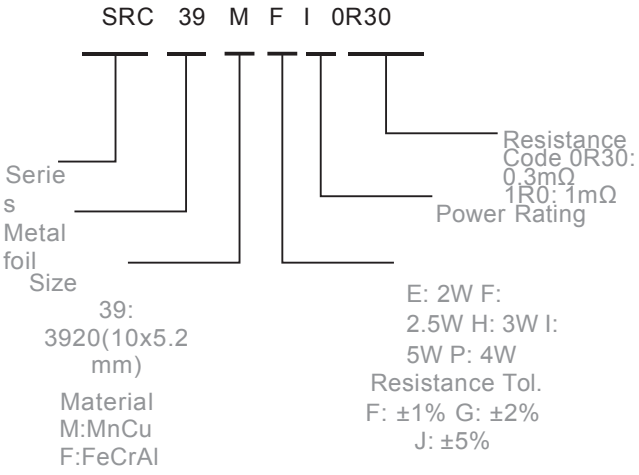
SRC39 Series Current Shunt Resistors aid precision measurement and high-current applications. A wide range of precision shunts, designed for use with kilowatt-hour meters and other high-current applications where a high level of accuracy is required, is now available from PROSEMI.

Features

- Power rating up to 5 W at 100°C
- Excellent long term stability
- Continuous current load up to 160A at 0.2mΩ
- Halogen free, lead free and RoHS compliant

Appications

- Power modules
- Frequency converters
- Current sensor for power hybrid sources
- High current for automotive
- Lithium battery protection board



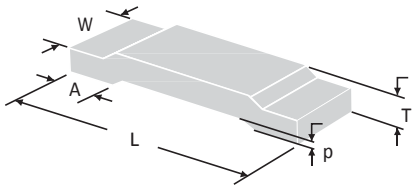
Specifications

Part Number	Power Rating P 100°C (W)	Power Rating P 70°C (W)	Resistance Range (mΩ)	TCR (ppm/°C)	Thickness (mm)	Material
SRC39F_E5R0	2	3	5	±50	0.85±0.1	FeCrAl
SRC39F_F4R0	2.5	4	4	±50	0.85±0.1	FeCrAl
SRC39F_H3R0	3	5	3	±50	0.95±0.1	FeCrAl
SRC39F_P2R0	4	6	2	±50	1.19±0.1	FeCrAl
SRC39M_I1R0	5	8	1	±50	0.92±0.1	MnCu
SRC39M_I0R50	5	9	0.5	±50	1.36±0.1	MnCu
SRC39M_I0R30	5	10	0.3	±70	1.92±0.1	MnCu
SRC39M_I0R20	5	12	0.2	±150	1.95±0.1	MnCu

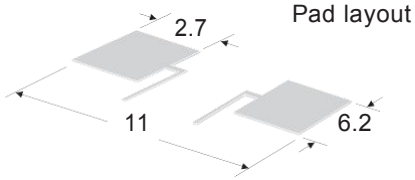
- Applicable temperature range of -55°C to +170°C
- Power rating is guaranteed for use an aluminum
- substrate (MCPCB) Part Number definition "-" of Resistance Tolerance

Dimension

Unit: mm



Pad layout



Type	L	W	T	A	p
SRC39F_E5R	10.2±0.2	5.2±0.1	0.85±0.1	1.8±0.1	0.5±0.1
SRC39F_F4R	10.2±0.2	5.2±0.1	0.85±0.1	1.8±0.1	0.5±0.1
SRC39F_H3R	10.2±0.2	5.2±0.1	0.95±0.1	1.8±0.1	0.5±0.1
SRC39F_P2R	10.2±0.2	5.2±0.1	1.19±0.1	1.8±0.1	0.5±0.1
SRC39M_I1R	10.2±0.2	5.2±0.1	0.92±0.1	1.8±0.1	0.5±0.1
SRC39M_I0R	10.2±0.2	5.2±0.1	1.36±0.1	1.8±0.1	0.5±0.1
SRC39M_I0R	10.2±0.2	5.2±0.1	1.92±0.1	1.8±0.1	0.5±0.1
SRC39M_I0R	10.2±0.2	5.2±0.1	1.95±0.1	1.8±0.1	0.5±0.1

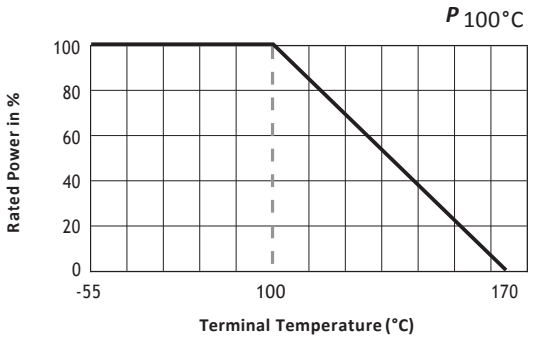
Packaging

- Quantity: 3,000pcs
- 16mm wide tape on 330mm(13 inch) diameter reel -specification EIA Standard 481.

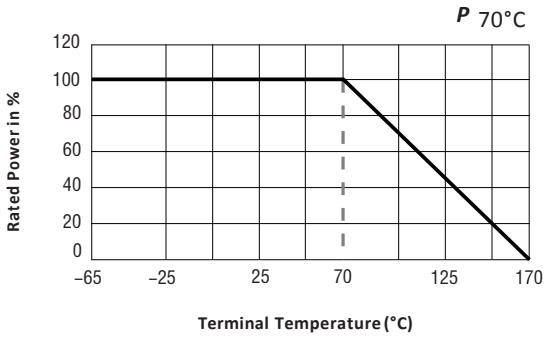
Storage Conditions

- Temperature: 22~28°C, Humidity: 40~75%

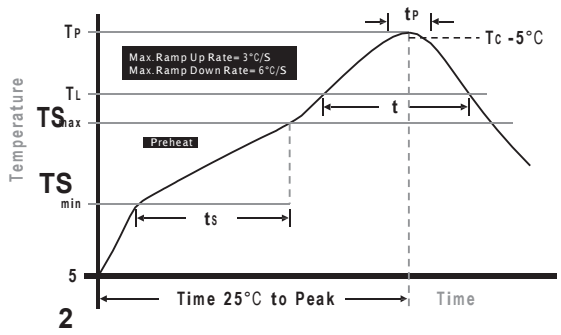
Power derating curve at 100 °C



Power derating curve at 70 °C



Soldering Parameters



Wave Soldering: 260°C, 10 seconds max.
Infrared Reflow: 260°C, 30 seconds max.

IR Reflow Profile

Preheat Heat Temperature min (Tsmin) Temperature max(Tsmax) Time (Tsmin to Tsmax) (ts)	 150°C 200°C 60 -120 seconds
Average ramp-up rate (Tsmax to Tp)	3°C/second max.
Liquidous temperature (TL) Time at liquidous (tL)	217°C 60 - 150 seconds
Peak temperature(Tp)	260+0/-5°C
Time within 5°C of actual peak Temperature (tp)	10 – 30 seconds
Average ramp-down rate (Tp to Tsmax)	6°C/secon
Time 25 °C to peak temperature	8 minutes max. d max.

Performances

Short Time Overload	Loading 5 times rate power 5sec
Moisture Resistance	The specimens shall be placed in a chamber and subjected to a relative humidity of 90~98% percent and a temperature of 25°C / 65°C 10 cycles
High Temperature Exposure	The chip (mounted on board) is exposed in the heat chamber 125°C for 1000 hrs.
Rapid Change of Temperature	The chip (mounted on board) is exposed, -55±3°C (30min.)/+125±2°C (30min.) for 5 cycles.
Load Life	Apply rated power for 1000 hours with 1.5 hours ON and 0.5 hour