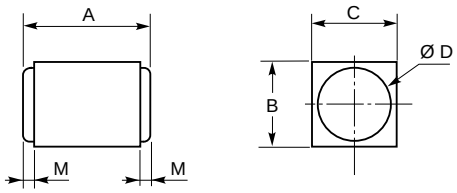
VISHAY SFERNICE

SMC3 HR high reliability resistors

– surface mount
– metal film technology

ESA SCC 4001

Originally developed for automatic placement equipment these surface mount resistors have excellent overall performances.
These components are manufactured, selected and tested to ESA SCC 4001 specification.
As defined in the ESA SCC specification two test levels are proposed:
– level B with serialized components,
– level C without serialization.



Dimensions in mm

Fig. 1

Table 1

Dimensions	min.	max.
A	3,10	3,30
B	1,50	1,70
C	1,50	1,70
D	1,40	1,45
M	0,45	0,65
Unit max. weight: 0,03 g		

SPECIFICATIONS

Table 2

SFERNICE DESIGNATION	SMC3 HR
ESA SPECIFICATION APPLIED	4001/021
POWER RATING AT +70°C	0,25 W
LIMITING ELEMENT VOLTAGE	250 V
OHMIC VALUES VERSUS TEMPERATURE COEFFICIENT ± 25 ppm/°C ± 50 ppm/°C	49,9 Ω to 511 kΩ 1 Ω to 1 MΩ
TOLERANCE	± 0,1 % to ±1%
TEMPERATURE RANGE	–55°C ... +155°C

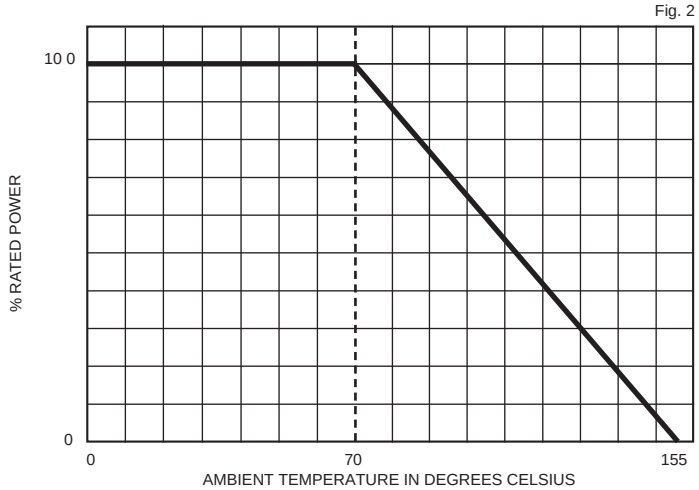
PERFORMANCES

Table 3

TESTS	CONDITIONS	LIMIT DRIFTS
INSULATION RESISTANCE	CEI 115 - 1 U_T = 100 V	1 GΩ min.
SOLDERING (thermal shocks)	CEI 68-2-20A test Tb T = +260°C t ≥ 10 s	$\pm (0{,}15 + \frac{0{,}05\ \Omega}{R} \times 100)$ %
TERMINAL STRENGTH	CEI 115 - 1 adhesive test	$\pm (0{,}25 + \frac{0{,}05\ \Omega}{R} \times 100)$ %
CLIMATIC SEQUENCE	SCC 4001 and CEI 68-2- ..., 95% R.H.., +40°C –55°C / +155°C / 6 cycles	$\pm (0{,}50 + \frac{0{,}05\ \Omega}{R} \times 100)$ % Insulation resistance > 100 MΩ
LOAD LIFE	2000 h at rated power at +70°C, 90' / 30' cycle	$\pm (0{,}50 + \frac{0{,}05\ \Omega}{R} \times 100)$ % Insulation resistance > 1000 MΩ
HIGH TEMPERATURE EXPOSURE	2000 h no load at +155°C	$\pm (0{,}50 + \frac{0{,}05\ \Omega}{R} \times 100)$ % Insulation resistance > 1000 MΩ

POWER RATING CHART

Fig. 2



MARKING

The ohmic value is shown with a four digit code, the first three digits are significant figures, the fourth digit specifies the number of zero to follow.
The tolerance (letter code): B : ± 0,1 %, D: ± 0,5%, F: ± 1%, G: ± 2%, J: ± 5%; the temperature coefficient (1 digit): 9 for 30 ppm/°C, 2 for: ± 25 ppm/°C and 3 for : ± 50 ppm/°C.

PACKAGING

Resistors are packaged in transparent blister pack for resistors tested to level B and in wafle pack for resistor tested to level C.
Both packages contain 80 resistors.
On the blister, information printed is: SFERNICE designation, ESA/ SCC detail specification, ohmic value, tolerance and manufacturing date code (4 digits), two for the year and two for the week.

EXTENTED RANGE

Please, consult SFERNICE for ohmic values, tolerances and also temperature coefficient (as ±15 ppm/°C) outside the qualified range.

ORDERING PROCEDURE

SFERNICE DESIGNATION	ESA DESIGNATION	TESTING LEVEL	OHMIC VALUE	TOLERANCE	TEMPERATURE COEFFICIENT
SMC3 HR	4001/021	B	10 Ω	± 1%	± 50 ppm/°C

VISHAY S.A.
International Department
199, Boulevard de la Madeleine
B.P. 1159
F 06003 NICE CEDEX 1
Tel. : (33) 04 93 37 27 27
Fax. : (33) 04 93 37 27 26