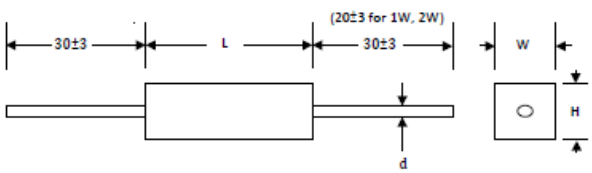
CEMENT POWER RESISTOR

SQP (STANDARD TYPE)
SQM (RADIAL TYPE)
SQT (AXIAL TYPE)
SQZ (PCB MOUNTING TYPE)
SQH SQS (CLAMP MOUNTING TYPE)
SQF (FLAT TYPE)

INTRODUCTION

Cement resistors are manufactured by winding the ceramic rods with metal alloy resistance wire and put it into a fireproof ceramic box then concrete with non－flammable and heat－resistant cement.

SQP



TYPE	RATED WATTS	DIMENSIONS (mm)				RANGE (OHM)
		L±1.5	W±1.5	H±1.5	d±0.1	
SQP-1	1W	14.0	6.0	6.0	0.75	0.10～10K
SQP-2	2W	18.0	7.0	7.0	0.75	0.10～10K
SQP-3	3W	22.0	8.0	8.0	0.75	0.10～33K
SQP-5	5W	22.0	10.0	9.0	0.75	0.10～50K
SQP-7	7W	35.0	10.0	9.0	0.75	0.10～50K
SQP-10	10W	48.0	10.0	9.0	0.75	0.10～50K
SQP-15	15W	48.0	12.5	11.5	0.75	0.10～150K
SQP-20	20W	60.0	14.5	13.5	0.75	0.10～150K
SQP-25S	25W	60.0	14.5	13.5	0.75	0.10～150K

NOTE : Non－Inductive type up to 50Ω

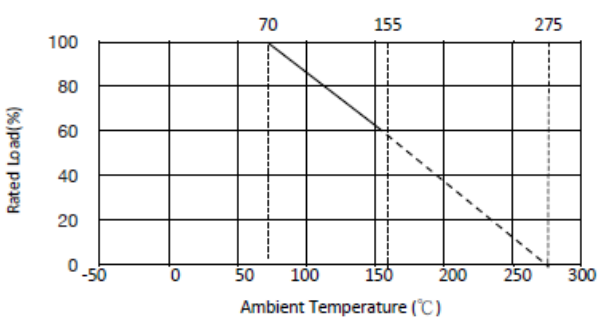
FEATURE

- Heat and flame resistant!
- The completely insulated characteristic is suitable for printed circuit board.
- For high resistance value, the winding core will be replaced by metal oxide film cutting core (RS type).
- High voltage type and non－inductive type are available on request!

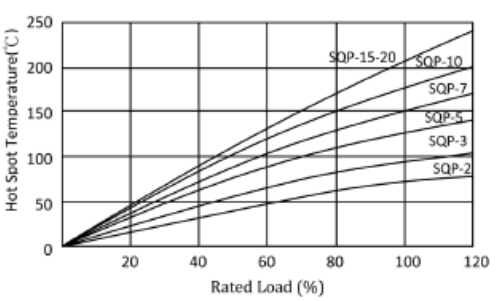
PERFORMANCE

TEMPERATURE COEFFICIENT	±300PPM/℃ ; SPECIAL : LOW TO±25PPM, HIGH TO±1500PPM
INSULATION RESISTANCE	>1,000MΩ
LOAD LIFE (1,000 HOURS)	±5%+0.05Ω
SHORT－TIME OVERLOAD	±2%+0.05Ω
DIELECTRIC WITHSTANDING VOLTAGE	±1%+0.05Ω
MOISTURE RESISTANCE	±5%+0.05Ω
SHOCK AND VIBRATION	±1%+0.05Ω
EFFECT BY SOLDERING	±2%+0.05Ω

DERATING CURVE

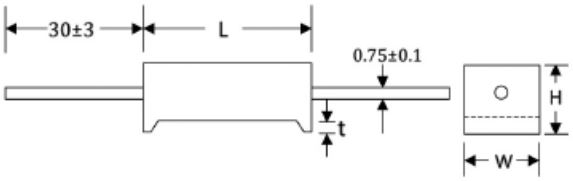


TEMPERATURE RISE



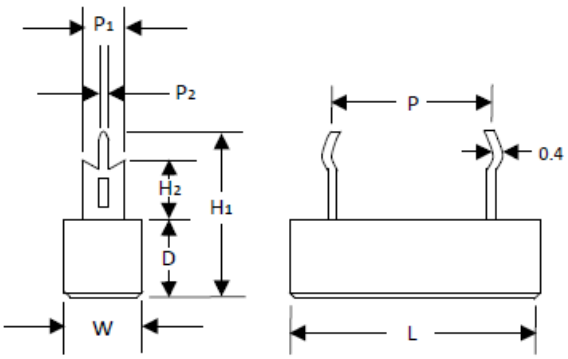
CEMENT POWER RESISTOR

SQT

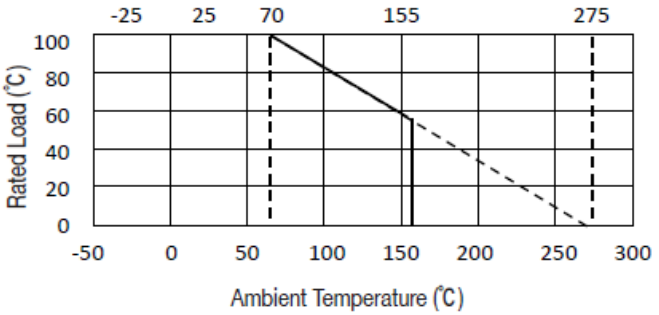


TYPE	RATED WATTS	DIMENSIONS (mm)±1.5mm				RESISTANCE RANGE
		W	H	L	t	
SQT-5	5W	10	9	22	1.5	0.1Ω～50KΩ
SQT-7	7W	10	9	35	3.0	0.1Ω～50KΩ
SQT-10	10W	10	9	48	3.0	0.1Ω～50KΩ

SQZ



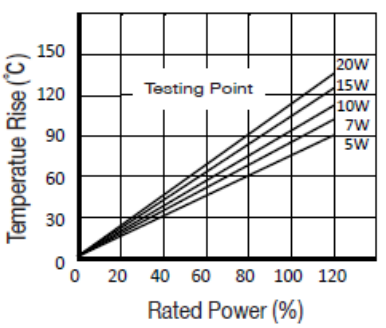
DERATING CURVE



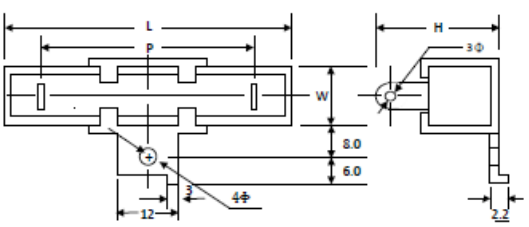
TYPE	RATED WATTS	DIMENSIONS (mm)±1.5mm								RESISTANCE RANGE	
		W	D	L	P	P1	P2	H1	H2	WIREWOUND	RS
SQZ-3	3W	9	9	22	8	5	1.4±0.2	25	10.5	0.1Ω～80Ω	80Ω～50KΩ
SQZ-5	5W	10	9	27	15	5	1.4±0.2	25	10.5	0.1Ω～80Ω	80Ω～50KΩ
SQZ-7	7W	10	9	35	20.5	5	1.4±0.2	25	10.5	0.1Ω～100Ω	100Ω～50KΩ
SQZ-10	10W	10	9	48	30	7	1.4±0.2	25	10.5	0.1Ω～200Ω	200Ω～50KΩ
SQZ-15	15W	12.5	11.5	48	32	10	3±0.5	33	15	1Ω～250Ω	250Ω～150KΩ
SQZ-20	20W	12.5	11.5	63	45±2	10	3±0.5	33	15	1Ω～270Ω	270Ω～150KΩ
SQZ-25	25W	12.5	11.5	63	45±2	10	3±0.5	33	15	1Ω～270Ω	270Ω～150KΩ
SQZ-30S	30W	12.5	11.5	63	45±2	10	3±0.5	33	15	1Ω～270Ω	270Ω～150KΩ

* The non-kinking tip is also available for SQZ-20 to SQZ-30S.

HEAT RISE CHART



SQHG



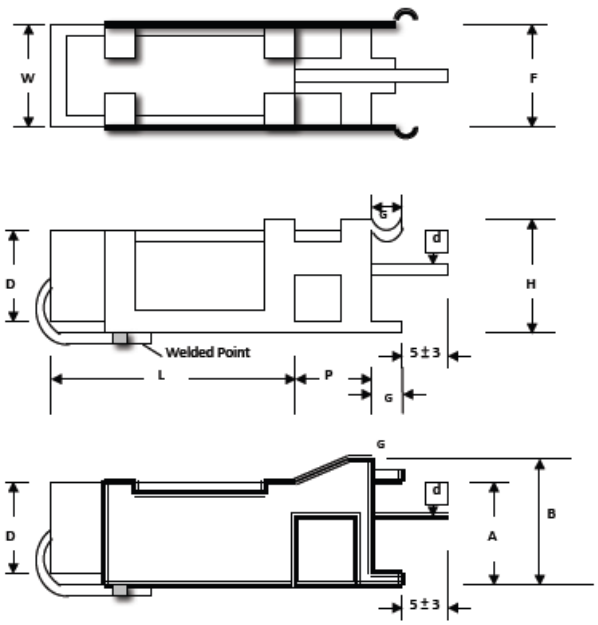
* Reference Sizes for 10W Chassis Only.

TYPE	RATED WATTS	DIMENSIONS (mm)±1.5mm				RESISTANCE RANGE	
		W	L	P	H	WIREWOUND	RS
SQH-10	10W	10	48	30	18	0.1Ω～200Ω	200Ω～50KΩ
SQH-15	15W	12.5	48	32	21	1Ω～250Ω	250Ω～150KΩ
SQH-20	20W	12.5	63	45±2	21	1Ω～270Ω	270Ω～150KΩ
SQH-30	30W	19	75	56±2	32	2Ω～310Ω	310Ω～1KΩ
SQH-40	40W	19	90	70±2	32	3Ω～350Ω	350Ω～2KΩ

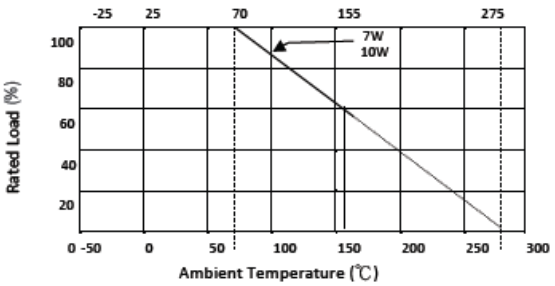
* SQH : Chassis Excluded.
* SQHG : Chassis Included .

CEMENT POWER RESISTOR

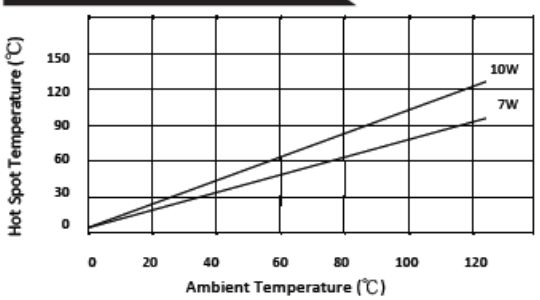
SQS



DERATING CURVE



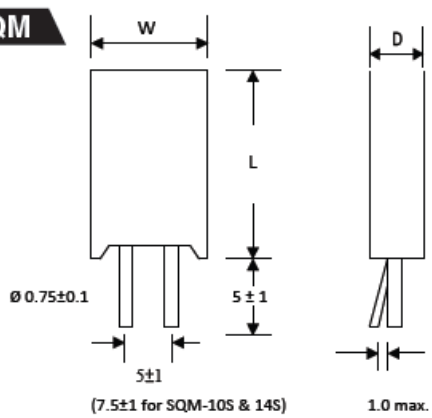
HEAT RISE CHART



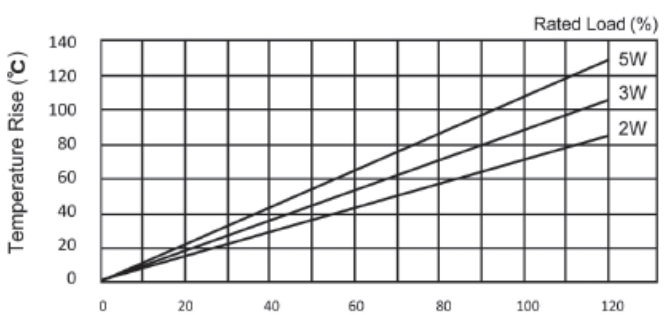
Unit : mm

TYPE	RATED WATTS	W±1.5	D±1.5	L±1.5	P±1.5	d±0.1	F	H±1.0	A±2.0	B±2.0	G±1.0
SQS-5	5W	10	9	22	5	0.75	11±1.0	11			4
SQS-7	7W	10	9	35	8	0.75	11±1.0	11			4
SQS-10	10W	10	9	48	8	0.75	11±1.0	11			4
SQS-20	20W	14	13.5	60	10	0.75	16±2.0		12.5	18	5
SQS-30S	30W	14	13.5	60	10	0.75	16±2.0		12.5	18	5
SQS-40SS	40W	14	13.5	60	10	0.75	16±2.0		12.5	18	5

SQM



HEAT RISE CHART



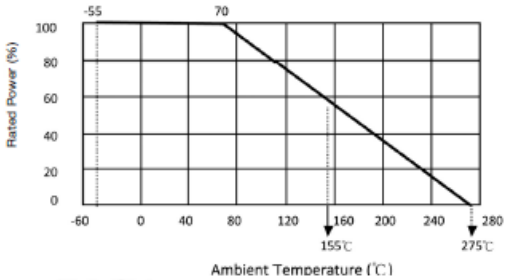
TYPE	RATED WATTS	DIMENSIONS (mm)±1.5mm			RESISTANCE RANGE	
		W	D	L	WIREWOUND	RS
SQM-2	2W	11.5	7.5	20.5	0.1Ω～150Ω	151Ω～33KΩ
SQM-3	3W	12.5	8.5	25	0.1Ω～150Ω	151Ω～33KΩ
SQM-5	5W	12.5	9	25	0.1Ω～200Ω	201Ω～50KΩ
SQM-7	7W	12.5	9	39	0.1Ω～300Ω	301Ω～50KΩ
SQM-10	10W	12.5	9	51	0.1Ω～500Ω	501Ω～50KΩ
SQM-10S	10W	16	12	35	0.1Ω～500Ω	501Ω～50KΩ
SQM-14S	14W	16	12	35	0.1Ω～500Ω	501Ω～50KΩ

CEMENT POWER RESISTOR

FEATURES

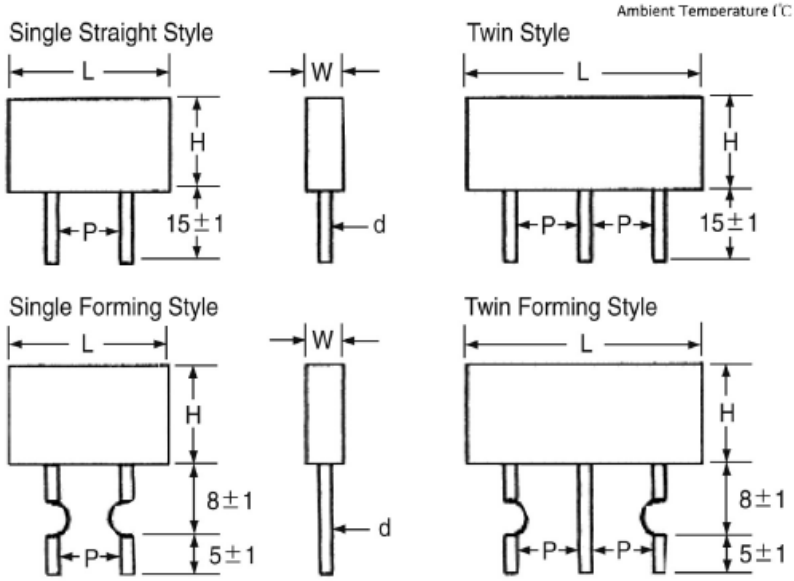
- Low inductance.
- Safety flameproof construction.
- Thin lightweight body saves the PCB space considerably.
- Tolerance available : ±10%, ±5%, ±2%

DERATING CURVE



DIMENSIONS

SQF



TYPE	POWER RATING AT 70℃	DIMENSIONS (mm)					RESISTANCE RANGE	MAXIMUM WORKING VOLTAGE	MAXIMUM OVERLOAD VOLTAGE
		L±1.5	H±1.5	W±1	d±0.1	P±1			
SQF-03	3W	13.5	13	5	0.75	10	0.1Ω～1Ω	350V	700V
SQF-05	5W	14	18	5	0.75	10			
SQF-33	3W+3W	26	13	5	0.75	10	0.1Ω～0.47Ω		
SQF-55	5W+5W	26	18	5	0.75	10			
SQF-77	7W+7W	26	20	5	0.75	10			

CHARACTERISTICS

TEST	TEST METHOD	LIMITS	TEST STANDARD JIS−C−5201
RESISTANCE TEMP. COEFF.	−55℃～+155℃	±350PPM, SPECIAL : LOW TO±25PPM, HIGHT TO±1, 500PPM	4.8
SHORT TIME OVERLOAD	10 times of rated wattage for 5 sec.	±2%	4.13
RATED LOAD	Rated wattage for 30 min.	±1%	4.14
DIELECTRIC WITHSTANDING VOLTAGE	1,000V AC 1 min.	no change	4.7
INSULATION RESISTANCE	500V megger	1,000MΩ	4.6
LOAD LIFE	70℃ on−off cycle 1,000 hours	±5%	4.25.1
MOISTURE−PROOF LOAD LIFE	40℃ 95% RH on−off cycle 1,000 hours	±5%	4.24
INCOMBUSTIBILITY	16 times of rated wattage for 5 min	not flamed	4.25