

RSKT-CF1/4
RS_Stock_No: 5021226



| | |
|-------------------------|-------------------------------------|
| Resistance Range (Ω) | 10 Ω to 1M Ω |
| Dimensions | 2.3 Dia. x 7.1 mm |
| Tolerance | ±5 % |
| Power Rating | 0.25 W |
| Temperature Coefficient | 2.2 Ω → 100k Ω : 350 → -450 ppm/° C |
| | 110k Ω → 330k Ω : 0 → -700 ppm/° C |
| | 360k Ω → 1M Ω : 0 → -1000 ppm/° C |
| Number of each resistor | 20 |

| No | Manufacturer part number | Resistance |
|----|--------------------------|------------|
| 1 | CF1/4C2R2J | 2.2 Ω |
| 2 | CF1/4C3R3J | 3.3 Ω |
| 3 | CF1/4C4R7J | 4.7 Ω |
| 4 | CF1/4C6R8J | 6.8 Ω |
| 5 | CF1/4C100J | 10 Ω |
| 6 | CF1/4C120J | 12 Ω |
| 7 | CF1/4C150J | 15 Ω |
| 8 | CF1/4C180J | 18 Ω |
| 9 | CF1/4C200J | 20 Ω |
| 10 | CF1/4C220J | 22 Ω |
| 11 | CF1/4C270J | 27 Ω |
| 12 | CF1/4C300J | 30 Ω |
| 13 | CF1/4C330J | 33 Ω |
| 14 | CF1/4C390J | 39 Ω |
| 15 | CF1/4C470J | 47 Ω |
| 16 | CF1/4C560J | 56 Ω |
| 17 | CF1/4C680J | 68 Ω |
| 18 | CF1/4C750J | 75 Ω |
| 19 | CF1/4C820J | 82 Ω |
| 20 | CF1/4C101J | 100 Ω |
| 21 | CF1/4C121J | 120 Ω |
| 22 | CF1/4C151J | 150 Ω |
| 23 | CF1/4C181J | 180 Ω |
| 24 | CF1/4C201J | 200 Ω |
| 25 | CF1/4C221J | 220 Ω |
| 26 | CF1/4C271J | 270 Ω |

| No | Manufacturer part number | Resistance |
|----|--------------------------|------------|
| 27 | CF1/4C301J | 300 Ω |
| 28 | CF1/4C331J | 330 Ω |
| 29 | CF1/4C391J | 390 Ω |
| 30 | CF1/4C471J | 470 Ω |
| 31 | CF1/4C561J | 560 Ω |
| 32 | CF1/4C681J | 680 Ω |
| 33 | CF1/4C821J | 820 Ω |
| 34 | CF1/4C102J | 1.0 kΩ |
| 35 | CF1/4C122J | 1.2 kΩ |
| 36 | CF1/4C152J | 1.5 kΩ |
| 37 | CF1/4C182J | 1.8 kΩ |
| 38 | CF1/4C202J | 2.0 kΩ |
| 39 | CF1/4C222J | 2.2 kΩ |
| 40 | CF1/4C272J | 2.7 kΩ |
| 41 | CF1/4C302J | 3.0 kΩ |
| 42 | CF1/4C332J | 3.3 kΩ |
| 43 | CF1/4C392J | 3.9 kΩ |
| 44 | CF1/4C472J | 4.7 kΩ |
| 45 | CF1/4C562J | 5.6 kΩ |
| 46 | CF1/4C682J | 6.8 kΩ |
| 47 | CF1/4C822J | 8.2 kΩ |
| 48 | CF1/4C103J | 10 kΩ |
| 49 | CF1/4C123J | 12 kΩ |
| 50 | CF1/4C153J | 15 kΩ |
| 51 | CF1/4C183J | 18 kΩ |
| 52 | CF1/4C203J | 20 kΩ |

| No | Manufacturer part number | Resistance |
|----|--------------------------|------------|
| 53 | CF1/4C223J | 22 kΩ |
| 54 | CF1/4C273J | 27 kΩ |
| 55 | CF1/4C303J | 30 kΩ |
| 56 | CF1/4C333J | 33 kΩ |
| 57 | CF1/4C393J | 39 kΩ |
| 58 | CF1/4C473J | 47 kΩ |
| 59 | CF1/4C563J | 56 kΩ |
| 60 | CF1/4C683J | 68 kΩ |
| 61 | CF1/4C823J | 82 kΩ |
| 62 | CF1/4C104J | 100 kΩ |
| 63 | CF1/4C124J | 120 kΩ |
| 64 | CF1/4C154J | 150 kΩ |
| 65 | CF1/4C184J | 180 kΩ |
| 66 | CF1/4C204J | 200 kΩ |
| 67 | CF1/4C224J | 220 kΩ |
| 68 | CF1/4C274J | 270 kΩ |
| 69 | CF1/4C304J | 300 kΩ |
| 70 | CF1/4C334J | 330 kΩ |
| 71 | CF1/4C394J | 390 kΩ |
| 72 | CF1/4C474J | 470 kΩ |
| 73 | CF1/4C564J | 560 kΩ |
| 74 | CF1/4C684J | 680 kΩ |
| 75 | CF1/4C824J | 820 kΩ |
| 76 | CF1/4C105J | 1.0 MΩ |

RSKT-CFS1/4
RS_Stock_No: 5021210



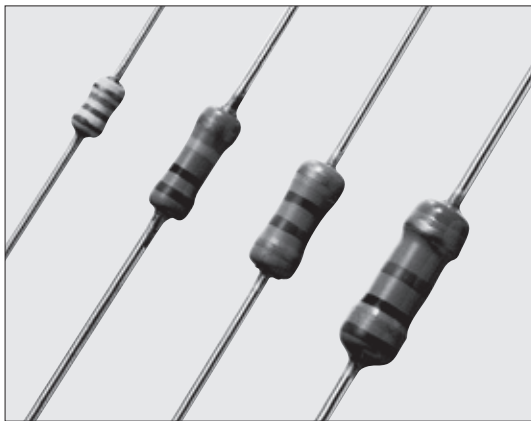
| | |
|-------------------------|-------------------------------------|
| Resistance Range (Ω) | 10 Ω to 1M Ω |
| Dimensions | 1.7 Dia. x 3.4 mm |
| Tolerance | ±5 % |
| Power Rating | 0.25 W |
| Temperature Coefficient | 2.2 Ω → 47k Ω : 350 → -450 ppm/° C |
| | 51k Ω → 100k Ω : 0 → -700 ppm/° C |
| | 110k Ω → 330k Ω : 0 → -1000 ppm/° C |
| | 360k Ω → 1M Ω : 0 → -1300 ppm/° C |
| Number of each resistor | 20 |

| No | Manufacturer part number | Resistance |
|----|--------------------------|------------|
| 1 | CFS1/4C2R2J | 2.2 Ω |
| 2 | CFS1/4C3R3J | 3.3 Ω |
| 3 | CFS1/4C4R7J | 4.7 Ω |
| 4 | CFS1/4C6R8J | 6.8 Ω |
| 5 | CFS1/4C100J | 10 Ω |
| 6 | CFS1/4C120J | 12 Ω |
| 7 | CFS1/4C150J | 15 Ω |
| 8 | CFS1/4C180J | 18 Ω |
| 9 | CFS1/4C200J | 20 Ω |
| 10 | CFS1/4C220J | 22 Ω |
| 11 | CFS1/4C270J | 27 Ω |
| 12 | CFS1/4C300J | 30 Ω |
| 13 | CFS1/4C330J | 33 Ω |
| 14 | CFS1/4C390J | 39 Ω |
| 15 | CFS1/4C470J | 47 Ω |
| 16 | CFS1/4C560J | 56 Ω |
| 17 | CFS1/4C680J | 68 Ω |
| 18 | CFS1/4C750J | 75 Ω |
| 19 | CFS1/4C820J | 82 Ω |
| 20 | CFS1/4C101J | 100 Ω |
| 21 | CFS1/4C121J | 120 Ω |
| 22 | CFS1/4C151J | 150 Ω |
| 23 | CFS1/4C181J | 180 Ω |
| 24 | CFS1/4C201J | 200 Ω |
| 25 | CFS1/4C221J | 220 Ω |
| 26 | CFS1/4C271J | 270 Ω |

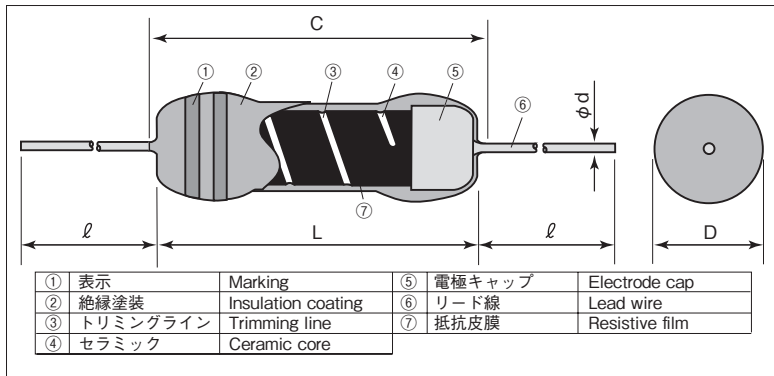
| No | Manufacturer part number | Resistance |
|----|--------------------------|------------|
| 27 | CFS1/4C301J | 300 Ω |
| 28 | CFS1/4C331J | 330 Ω |
| 29 | CFS1/4C391J | 390 Ω |
| 30 | CFS1/4C471J | 470 Ω |
| 31 | CFS1/4C561J | 560 Ω |
| 32 | CFS1/4C681J | 680 Ω |
| 33 | CFS1/4C821J | 820 Ω |
| 34 | CFS1/4C102J | 1.0 kΩ |
| 35 | CFS1/4C122J | 1.2 kΩ |
| 36 | CFS1/4C152J | 1.5 kΩ |
| 37 | CFS1/4C182J | 1.8 kΩ |
| 38 | CFS1/4C202J | 2.0 kΩ |
| 39 | CFS1/4C222J | 2.2 kΩ |
| 40 | CFS1/4C272J | 2.7 kΩ |
| 41 | CFS1/4C302J | 3.0 kΩ |
| 42 | CFS1/4C332J | 3.3 kΩ |
| 43 | CFS1/4C392J | 3.9 kΩ |
| 44 | CFS1/4C472J | 4.7 kΩ |
| 45 | CFS1/4C562J | 5.6 kΩ |
| 46 | CFS1/4C682J | 6.8 kΩ |
| 47 | CFS1/4C822J | 8.2 kΩ |
| 48 | CFS1/4C103J | 10 kΩ |
| 49 | CFS1/4C123J | 12 kΩ |
| 50 | CFS1/4C153J | 15 kΩ |
| 51 | CFS1/4C183J | 18 kΩ |
| 52 | CFS1/4C203J | 20 kΩ |

| No | Manufacturer part number | Resistance |
|----|--------------------------|------------|
| 53 | CFS1/4C223J | 22 kΩ |
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| 55 | CFS1/4C303J | 30 kΩ |
| 56 | CFS1/4C333J | 33 kΩ |
| 57 | CFS1/4C393J | 39 kΩ |
| 58 | CFS1/4C473J | 47 kΩ |
| 59 | CFS1/4C563J | 56 kΩ |
| 60 | CFS1/4C683J | 68 kΩ |
| 61 | CFS1/4C823J | 82 kΩ |
| 62 | CFS1/4C104J | 100 kΩ |
| 63 | CFS1/4C124J | 120 kΩ |
| 64 | CFS1/4C154J | 150 kΩ |
| 65 | CFS1/4C184J | 180 kΩ |
| 66 | CFS1/4C204J | 200 kΩ |
| 67 | CFS1/4C224J | 220 kΩ |
| 68 | CFS1/4C274J | 270 kΩ |
| 69 | CFS1/4C304J | 300 kΩ |
| 70 | CFS1/4C334J | 330 kΩ |
| 71 | CFS1/4C394J | 390 kΩ |
| 72 | CFS1/4C474J | 470 kΩ |
| 73 | CFS1/4C564J | 560 kΩ |
| 74 | CFS1/4C684J | 680 kΩ |
| 75 | CFS1/4C824J | 820 kΩ |
| 76 | CFS1/4C105J | 1.0 MΩ |

CF 小形塗装絶縁形炭素皮膜固定抵抗器 Coat-Insulated Fixed Carbon Film Resistors



■構造図 Construction



外装色：CFS1/4、アイボリー その他、ベネチアンレッド
Coating colors : CFS1/4-Ivory Others-venetian red
表示：カラーコード Marking : Color code

■特長 Features

- 汎用のリードタイプ抵抗器です。
- 自動挿入が可能です。
- 各種フォーミングが可能です。
- 同一電力のチップ抵抗よりも耐パルス性が強い。
- 1/4Wの小形タイプ (CFS 1/4) があります。
- 欧州RoHS対応品です。
- General-purpose lead-type resistors.
- Automatic insertion is applicable.
- Various types of formings are available.
- Stronger in pulse resistance than chip resistors of the same power.
- The smaller type of 1/4W(CFS 1/4) is available.
- Products meet EU-RoHS requirements.

■外形寸法 Dimensions

| 形名 Type | 寸法 Dimensions (mm) | | | | Weight (g) (1000pcs) | | |
|------------|--------------------|--------|--------------------------------------|------------|-------------------------|---------|-----|
| | L | C Max. | D | d(Nominal) | Standard | Short | |
| CFS1/4 | 3.2±0.2 | 3.4 | 1.7 ^{+0.2} / _{0.1} | 0.45 | 20min. | 150 | |
| CF1/4 | 6.1±0.5 | 7.1 | 2.3±0.3 | 0.6 | | 14min*1 | 240 |
| CFS1/2 | 6.3±0.5 | 7.1 | 2.85±0.3 | 0.6 | | — | 290 |
| CFB1/2 | 9.0±1.0 | 11.0 | 3.5±0.5 | 0.7 | | — | 520 |

※1 バルク品 二次加工記号はSとする。 ※2 テーピング及びフォーミングによってリード寸法が異なります。
※1 Forming code S is applied for bulk type. ※2 Lead length changes depending on taping and forming type.

■品名構成 Type Designation

例 Example

| CF | 1/4 | C | T52 | A | 103 | J |
|--------------------|---|-------------------------------------|--------------------------|--|-----------------------------|--------------------------------|
| 品名 Product Code | 定格電力 Power Rating | 端子表面材質 Terminal Surface Material | 二次加工 Taping & Forming | 包装 Packaging | 公称抵抗値 Nominal Resistance | 抵抗値許容差 Resistance Tolerance |
| | S1/4:0.25W 1/4:0.25W S1/2:0.5W B1/2:0.5W | C: SnCu | 下記参照 See table below | A: アモバック A: AMMO R: リール R: REEL | 3 digits | G: ±2% J: ±5% |

環境負荷物質含有についてEU-RoHS以外の物質に対するご要求がある場合にはお問合せください。
テーピング及びフォーミングの詳細については巻末のAPPENDIX Cを参照してください。
Contact us when you have control request for environmental hazardous material other than the substance specified by EU-RoHS.

For further information on taping and forming, please refer to APPENDIX C on the back pages.

■参考規格 Reference Standards

IEC 60115-2
JIS C 5201-2
EIAJ RC-2136

■二次加工対応表 Taping & Forming Matrix

| 形名 Type | アキシアルテーピング Axial Taping | | ラジアルテーピング Radial Taping | | | | | Uフォーミング U Forming | | Mフォーミング M Forming | | | |
|------------|----------------------------|-----|----------------------------|----|-----|-----|-----|----------------------|-----|----------------------|------|--------|--------|
| | T26 | T52 | VT | MT | MHT | VTP | VTE | U | UCL | M5 | M10 | M12.5 | M12.5 |
| CFS 1/4C | ○ | ○ | ○ | ○ | ○ | — | — | ○ | — | M5F | — | — | — |
| CF 1/4C | ○ | ○ | ○ | — | — | ○ | ○ | — | ○ | — | M10H | M12.5H | — |
| CFS 1/2C | ○ | ○ | ○ | — | — | ○ | ○ | ○ | — | — | M10H | — | — |
| CFB 1/2C | — | ○ | — | — | — | — | — | — | — | — | — | — | M12.5K |

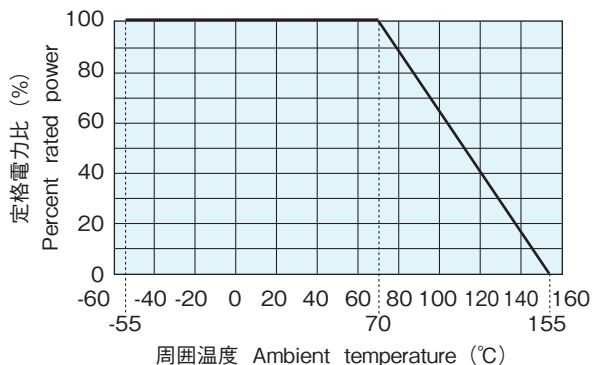
■定格 Ratings

| 形名 Type | 定格電力 Power Rating | 抵抗値範囲 Resistance Range (Ω) (E24) | | 抵抗温度係数 T.C.R. (×10 ⁻⁶ /K) | | | | 最高使用電圧 Max. Working Voltage | 最高過負荷電圧 Max. Overload Voltage | 耐電圧 Dielectric Withstanding Voltage | テーピングと包装数/アモ包装 Taping & Q'ty/AMMO (pcs) | |
|------------|----------------------|-------------------------------------|----------|---|-------------|-------------|-------------|--------------------------------|----------------------------------|--|--|-------|
| | | G: ±2% | J: ±5% | +350~-450 | 0~-700 | 0~-1000 | 0~-1300 | | | | T26A | T52A |
| CFS 1/4C | 0.25W | 10~330k | 2.2~1M | 2.2Ω~47kΩ | 51kΩ~100kΩ | 110kΩ~330kΩ | 360kΩ~1MΩ | 250V | 500V | 300V | 5,000 | 3,000 |
| CF 1/4C | 0.25W | 10~1M | 2.2~5.1M | 2.2Ω~100kΩ | 110kΩ~330kΩ | 360kΩ~1MΩ | 1.1MΩ~5.1MΩ | 300V | 600V | 500V | 2,000 | 2,000 |
| CFS 1/2C | 0.5W | | 1.0~5.1M | 2.2Ω~91kΩ | 100kΩ~1MΩ | 1.1MΩ~2.2MΩ | 2.4MΩ~5.1MΩ | 350V | 700V | 700V | | |
| CFB 1/2C | 0.5W | | 2.2~5.1M | 2.2Ω~100kΩ | 110kΩ~1MΩ | 1.1MΩ~2.2MΩ | 2.4MΩ~5.1MΩ | 400V | 800V | — | — | |

定格周囲温度 Rated Ambient Temperature : +70℃
使用温度範囲 Operating Temperature Range : -55℃~+155℃

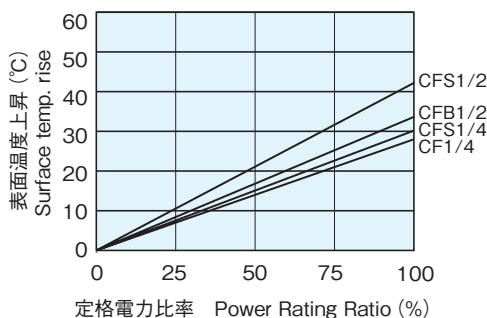
定格電圧は√定格電力×公称抵抗値による算出値、又は表中の最高使用電圧のいずれか小さい値が定格電圧となります。
Rated voltage = √ Power Rating × Resistance value or Max. working voltage, whichever is lower.

■負荷軽減曲線 Derating Curve

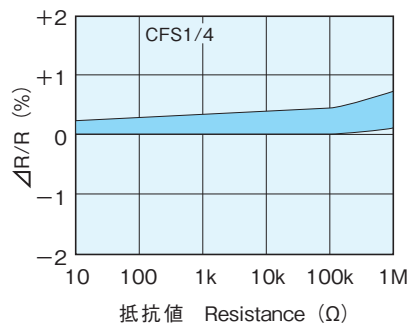


周囲温度70℃以上で使用される場合は、左図負荷軽減曲線に従って、定格電力を軽減して御使用ください。
For resistors operated at an ambient temperature of 70°C or above, a power rating shall be derated in accordance with derating curve on the left.

■表面温度上昇 Surface Temperature Rise



■耐久性(定格負荷) Load Life At 70°C 1000Hr



■性能 Performance

| 試験項目 Test Items | 規格値 Performance Requirements $\Delta R \pm (\% + 0.05 \Omega)$ | | 試験方法 Test Methods |
|--|---|-------------|---|
| | 保証値 Limit | 代表値 Typical | |
| 抵抗値 Resistance | 規定の許容差内 Within specified tolerance | — | 測定箇所は本体から10mm±1mmとする Measuring points are at 10mm±1mm from the end cap. |
| 抵抗温度係数 T.C.R. | 規定値内 Within specified T.C.R. | — | 室温/100°C up Room temperature+100°C |
| 過負荷(短時間) Overload (Short time) | 1 | 0.5 | 定格電圧×2.5倍又は最高過負荷電圧の低い方を5秒印加 Rated voltage×2.5 or Max. overload vol., whichever is lower, for 5s. |
| はんだ耐熱性 Resistance to soldering heat | 1 | 0.5 | 260°C±5°C, 10s±1s |
| 端子強度 Terminal strength | リード線の外れ、端子のユルミのないこと。 No lead-coming off and loose terminals | — | Twist 360°, 5 times |
| 温度急変 Rapid change of temperature | 1 | 0.5 | -55°C (30min.)/+125°C (30min.) 5 cycles |
| 耐湿負荷 Moisture resistance | 5 | 2.5 | 40°C±2°C, 90%~95%RH, 1000h 1.5時間 ON/0.5時間 OFFの周期 1.5h ON/0.5h OFF cycle |
| 70°Cでの耐久性 Endurance at 70°C | 3 | 1.5 | 70°C±2°C, 1000h 1.5時間 ON/0.5時間 OFFの周期 1.5h ON/0.5h OFF cycle |

■使用上の注意 Precautions for Use

- 本製品及び実装したプリント基板にフラックス等によるイオン性不純物質が付着していると、耐湿性・耐腐食性等の点から好ましくありません。フラックス内には、塩素・酸等のイオン性物質が含まれている場合があります。これらのイオン性物質を除去するためには洗浄を行ってください。特に鉛フリーはんだを御使用の場合、濡れ性向上の為、イオン性物質を多く含有している場合があります。RMA系のはんだ又はフラックスをご使用になるか、十分な洗浄を行ってください。また、保管環境や実装条件・環境等によって、汗、塩等のイオン性物質を付着させた場合も、耐湿性・耐腐食性等の点から好ましくありません。その汚染時に対しましてもこれらのイオン性物質を除去するために洗浄を行ってください。
- Ionic impurities such as flux etc. that are attached to these products or those mounted onto a PCB, negatively affect their moisture resistance, corrosion resistance, etc. The flux may contain ionic substances like chlorine, acid, etc. Please wash them to get rid of these ionic substances especially when using lead-free solder that may contain much of the said substances for improving a wetting characteristic. Using RMA solder or RMA flux, or well-washing is needed. Also, attaching ionic substances such as perspiration, salt etc. by storage environments or mounting conditions/environments negatively affects their moisture resistance, corrosion resistance etc. Please wash them to remove the ionic substances when they are polluted.