

Fujipoly Data Sheet

SARCON® EGR-11F



Electromagnetic Wave Absorption Type

FEATURES

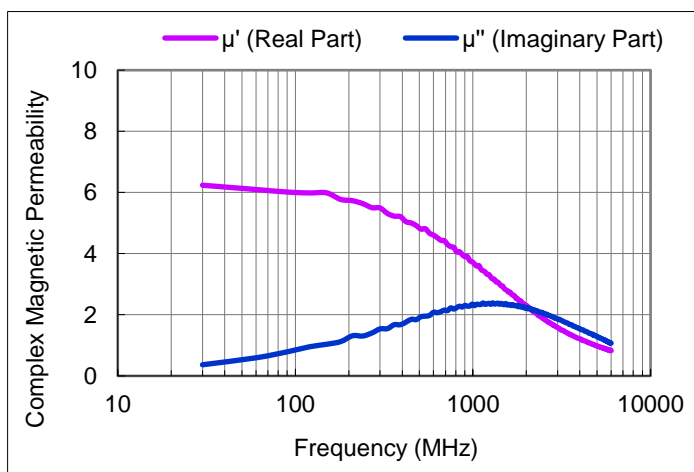
Silicone Gap Filler Pad for Absorption of Electromagnetic Wave

- Effective to absorb and damp a wide range of electromagnetic waves and also effective as a high performance thermal interface material.
- Easily filling small gaps of IC chip surface with soft gel texture.
- Good workability to simply insert the product between circuit board and casing.
- Self-adhesive gel surface does not require any adhesive tape for assembly.
- Extremely low level of low molecular siloxane.

CONSTRUCTIONS

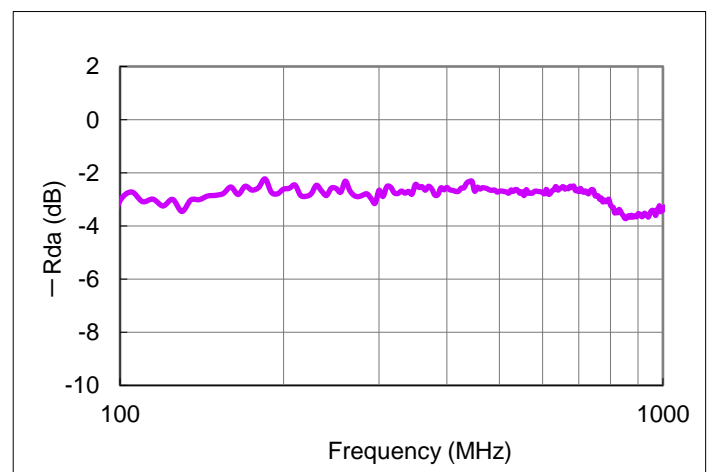
| Series | Characteristics | Constructions |
|--------------------|--|--|
| SARCON® EGR-11F-00 | Silicone compound with double sticky surfaces and Thermal Conductivity of EGR-11F material is 0.8W/m-K by using Hot Disk. |  Plain Type |
| SARCON® EGR-11F-0H | Silicone compound as above EGR-11F-00 plus additional hardening of the top surface to facilitate handling and installation during complex assemblies |  Hardened Surface |

COMPLEX MAGNETIC PERMEABILITY



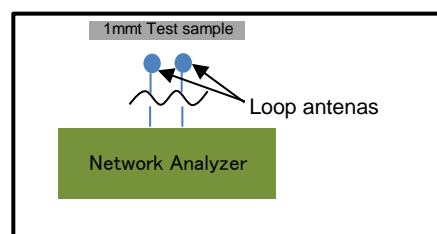
Specimen ; EGR-11F-0H (Thickness = 1.0mm)

INTRA-DECOUPLING RATIO



Measurement standard: IEC 62333

Test Method : Intra-decoupling ratio, Rda



TYPICAL PROPERTIES

| Properties | unit | EGR-11F | | Test method | Specimen | | |
|-----------------------|-------------------------------|------------------------------|---|-------------|-------------------------|--------------------|---|
| Physical Properties | Color | - | Dark Gray | | Visual | - | |
| | Specific Gravity | - | 3.1 | | ASTM D 792 | A | |
| | Hardness Highest Value | Shore OO (ASKER-C) | 56 (28) | | ASTM D2240 JIS K7312 | B | |
| Electrical Properties | Initial Magnetic Permeability | μ iac | 6 | | - | - | |
| | Volume Resistivity | Ohm-m | 1.0×10^{10} | | ASTM D 257 | C | |
| | Breakdown Voltage | V/mm (volts/mil) | 500 (12.7) | | ASTM D 149 | C | |
| | Dielectric Constant | - | 50Hz | 28.33 | | ASTM D 150 | A |
| | | | 1kHz | 27.05 | | | |
| | | | 300kHz | 26.09 | | | |
| Dissipation Factor | - | 50Hz | 0.031 | | ASTM D 150 | A | |
| | | 1kHz | 0.020 | | | | |
| | | 300kHz | 0.005 | | | | |
| Thermal Properties | Thermal Conductivity | W/m-K | 1.0 by Hot Wire | | ASTM D 2326 | - | |
| | | | 0.8 by Hot Disk | | ISO 22007-2 | | |
| | Useful Temperature | $^{\circ}$ C ($^{\circ}$ F) | -30 to +120 (-22 to +248) | | - | - | |
| | Low molecular Siloxane | wt% | D ₄ to D ₂₀ Total | 0.0071 | | Gas Chromatography | - |
| Flame Retardant | - | V-0 | | UL 94 | - | | |

• Specimen A: 2mmT • Specimen B: 20mmW x 60mmL x 10mmT • Specimen D: 120mmW x 120mmL x 1mmT

THERMAL RESISTANCE**EGR-11F-00**

| Compression Force | 1.5mmT |
|-------------------|-------------|
| 100kPa /14.5psi | 12.1 (1.88) |
| 300kPa /43.5psi | 10.4 (1.61) |
| 500kPa /72.5psi | 9.7 (1.50) |

EGR-11F-0HUnit: K-cm²/W (K-in²/W)

| Compression Force | 0.5mmT | 1.0mmT |
|-------------------|------------|------------|
| 100kPa /14.5psi | 6.8 (1.05) | 9.6 (1.48) |
| 300kPa /43.5psi | 6.4 (0.99) | 8.8 (1.36) |
| 500kPa /72.5psi | 6.1 (0.95) | 8.4 (1.30) |

Test method: Fujipoly Test method, FTM-P3050 by TIM Tester 1300 which is ASTM D5470 equivalent

• Specimen Area; DIA.33.0mm (1.30in)

COMPRESSION FORCE**EGR-11F-00**

| Compression Rate | 1.5mmT |
|------------------|-------------|
| 10% | 48 (10.8) |
| 20% | 202 (45.8) |
| 30% | 354 (80.2) |
| 40% | 521 (118.0) |
| 50% | 763 (172.9) |
| Sustain 50% | 367 (83.2) |

EGR-11F-0HUnit : N/6.4cm² (psi)

| Compression Rate | 0.5mmT | 1.0mmT |
|------------------|--------------|-------------|
| 10% | 54 (12.2) | 41 (9.3) |
| 20% | 288 (65.3) | 225 (51.0) |
| 30% | 566 (128.2) | 422 (95.6) |
| 40% | 879 (199.1) | 590 (133.7) |
| 50% | 1132 (256.5) | 813 (184.2) |
| Sustain 50% | 846 (191.7) | 408 (92.4) |

Test method: Measured by ASTM D575-91 for reference

• Specimen Area; DIA.28.6mm (1.13in) • Platen Area; DIA. 28.6mm (1.13in) • Sustain 50%: Sustain 50% at 1 minute later

• Compression Velocity; 5.0mm/minute

TYPES AND CONFIGURATION

| Series | Product Name | Thickness | Sheet Size |
|--------------------------------|--------------|----------------|--|
| SARCON [®] EGR-11F-00 | 150EG-11F-00 | 1.5mm ± 0.20mm | 300mm x 200mm (Recommended Usable Size: 290mmx190mm) |
| SARCON [®] EGR-11F-0H | 50EG-11F-0H | 0.5mm ± 0.15mm | |
| | 100EG-11F-0H | 1.0mm ± 0.20mm | |

HANDLING NOTES

- It is recommended to use the material in up to 30% of compression ratio. Using the material beyond the recommended compression rate may result in excessive silicone oil exudation.
- It is recommended to compress the material with the equal ratio on the whole surface. Partial excessive stress may also result in excessive silicone oil exudation.

WARRANTY STATEMENT

- Fujipoly has been utilizing Hot Disk method and TIM Tester method since Fujipoly defined them as Fujipoly standard.
- Properties of the products may be revised due to some changes for improving performance.
- Properties values in this document are not specification or guaranteed.
- This product is made of silicone, and silicone oil may exude from the product.
- This product is made of silicone, and low molecular siloxane may vaporize depending on operating conditions.
- The product is designed, developed, and manufactured for general industrial use only. Never use for medical, surgical, and/or relating purposes. Never use for the purpose of implantation and/or other purposes by which a part of or whole product remains in human body.
- Before using, a safety must be evaluated and verified by the purchaser.
- Contents described in the document do not guarantee the performances and qualities required for the purchaser's specific purposes. The purchaser is responsible for pre-testing the product under the purchaser's specific conditions and for verifying the expected performances.
- Statements concerning possible or suggested uses made herein may not be relied upon, or be constructed, as a guaranty of no patent infringement.
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