

MF xxx Series: (DIP 3.1Φ TYPE)

◆Features

- Quick and repeated response.
- Small capacitance.
- Stably absorb surge.
- Small devices in electronic circuit and no polarity.

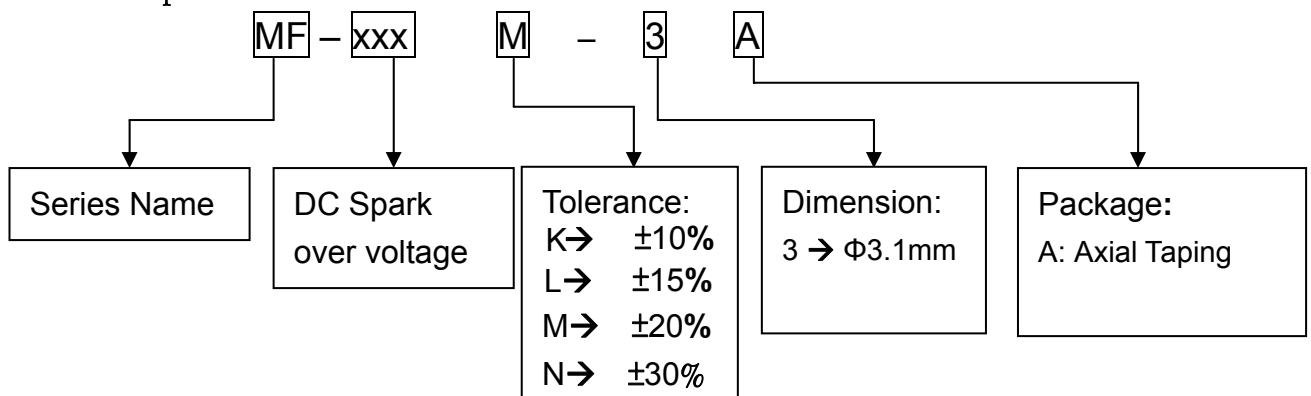
◆Application

- Surge protection for equipment connected to ISDN or LAN etc.
- Devices connecting telecommunication line. Telephone, Fax machine, XDSL, Modem etc.
- Devices connecting antenna or signal line. Booster, Car radio set etc.
- Devices that need protection against electrostatic Display unit, Monitor TV, etc.
- Used to protect sw uninitiating power supplies and terruptible power systems.(u.p.s)

一. 範圍. SCOPE.

This specification covers the MF SURGE SUPPRESSOR series for manufacturing gas tube arrestors with the micro-gap system.

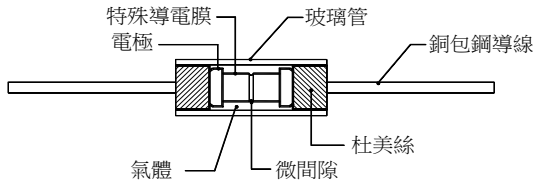
二. 料號說明. Part number description.



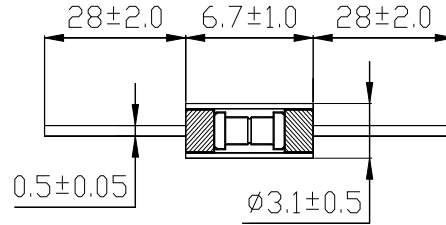
三. 溫度範圍. TEMPERATURE RANGE.

- 1) Operating temperature range : -45 ~ +125°C
- 2) Storage temperature range : -45 ~ +85°C

四. 製品結構.
Structure



五. 製品尺寸.
Dimension



六. Specification

Part Number	DC Spark-Over Voltage Vs(V)	Insulation Resistance IR(OHM)/DCV	Electrostatic Capacitance 1KHz-6Vmax C(pF)	Surge current capacity 8/20µs	Surge Life Test
MF-141N-3A	140 (126~182)	>100M/50V	<1.0	1000A	(8/20µs 100A 100time)
MF-201M-3A	200 (160-240)	>100M/100V			
MF-251M-3A	250 (200-300)				
MF-301M-3A	300 (240-360)				
MF-401M-3A	400 (320-480)	>100M/250V			
MF-501M-3A	500 (400~600)				
MF-601M-3A	600 (480-720)				
MF-701M-3A	700 (560-840)				
MF-801M-3A	800 (640-960)	>100M/500V			
MF-102M-3A	1000 (800-1200)				
MF-122M-3A	1200 (960-1440)				
MF-302M-3A	3000 (2400-3600)				
MF-362M-3A	3600 (2880-4320)				
					1500AC / 1 min
					1800AC / 3 Sec

色碼 (Color code)		第一色帶(1st Band)	第二色帶 (2nd Band)	第三色帶 (3rd Band)
黑 (Black)	0	製品編號 (Part No.)	製品 LOT NO. (Manufacture Lot No.1)	製品 LOT NO. (Manufacture Lot No.2)
棕 (Brown)	1			
紅 (Red)	2			
橙 (Orange)	3			
黃 (Yellow)	4			
綠 (Green)	5			
藍 (Blue)	6			
紫 (Purple)	7			
灰 (Gray)	8			
白 (White)	9			

七. 基本特性.

Initial Characteristics.

項 目 Test Item	測 試 條 件 Test Method	規 格 值 Specification
直流放電電壓 DC Spark-Over VoltageVs(V)	逐漸地增加測量使用直流電壓,即可知其開始電壓.測定電流為一毫安與測定時間最大為一秒(1sec).(1mA) Add and measure the DC Voltage gradually Maxto get the discharge threshold voltage. The measuring current is 1mA/1 second max.	依仕樣值而定 It depends on each spec.
內絕緣電阻 Insulation Resistance	在規定的設定直流電壓下,跨在兩端引線.即測量其內絕緣電阻值. Measure the insulation resistance of two end of leadwire under the specified DC voltage.	100MΩ 或大於 100MΩ 100MΩ min.
靜電電容 Capacitance C(pF)	使用頻率 1KHz 與小於或等於 6V 直流電壓之電源.即測量其靜電電容量. Measure the Electrostatic Capacitance under the test condition of 1KHz,DC 6V(max)	1PF 或小於 1PF (1pF max.)

八. 環境試驗.

Enviromental Characteristics.

試 驗 項 目 Test Item	試 驗 方 法 Test Method	性 能 Characteristics
耐寒性(依據 JIS C0020) Cold Resistance JIS C0020	放置於-40°C±3°C之環境中 1000 小時後,取出置於常溫常濕中 4 小時後,檢測直流開始放電電壓,絕緣阻抗,靜電容量及檢查外觀. After -40±3°C(1000hrs) / room temp., normal humidity(4 hrs) cycle, measure the properties.	滿足各個特性之規格值 Within standard mentioned in Initial Characteristics.
耐熱性(依據 JIS C0021) Heat Resistance JIS C0021	放置於 125°C±2°C之環境中 1000 小時後,取出置于常溫常濕中 4 小時後,檢測直流開始放電電壓,絕緣阻抗,靜電容量及檢查外觀. After 125±2°C(1000hrs) / room temp., normal humidity(4 hrs) cycle, measure the properties.	滿足各個特性之規格值 Within standard mentioned in Initial Characteristics.
耐濕性(依據 JIS C0022) Humidity Resistance JIS C0020	放置於 85°C±2°C RH85%之環境中 1000 小時後,取出置於常溫常濕中 4 小時後,檢測直流開始放電電壓,絕緣阻抗,靜電容量及檢查外觀. After 85±2°C, 85% RH (1000hrs)/room temp., normal humidity(4hrs)cycle, measure the properties.	滿足各個特性之規格值 Within standard mentioned in Initial Characteristics.
溫度周期(依據 JISC0025) Temperature Cycle Test (JIS C0025)	-40°C±3°C(30 分)-(常溫 3 分)-125°C±2°C(30 分)為 1 周期,重複 25 次後,取出置於常溫/常濕中 4 小時後,檢測直流開始放電電壓,絕緣阻抗,靜電容量及檢查外觀. 25 times repetition of cycle -40±3°C (30 Min.),room temp., (4 Min.), 125±2°C(30 Min.),room temp., normal humidity(4hrs).	滿足各個特性之規格值 Within standard mentioned in Initial Characteristics.

九. 機構特性.

Mechanical Characteristics.

試驗項目 Test Item	試 驗 方 法 Test Method	性 能 Characteristics
拉力強度(依據 JIS C0051) Pull Strength (JIS C0051)	施加 2.5Kgf 之荷重於導線約 30 秒鐘後,檢測直流開始放電電壓,絕緣阻抗,靜電容量及檢查外觀。(Apply 2.5 kgs load approximately 30 seconds, then check for pull-out and breaking of the lead wire.)	滿足各個特性之規格值 (Within standard mentioned in Initial Characteristics.)
彎曲強度 (依據 JIS C0051) Flexure Strength (JIS C0051)	距離導線熔接點根部約 3mm 處,使用曲率半徑 0.75~0.80mm 之治具,與軸方向垂直角度,荷 0.25Kgf 彎曲後回復原狀,反復 2 次後,檢測直流開始放電電壓,絕緣阻抗,靜電容量及檢查外觀。(Bend the lead wire, with jig which radius is 0.75~0.8mm, at the point of 2mm from the body, under 0.25 kgs load applied at the right angle the direction of the axis and get the bent lead wire back to its original poing after the procedure was repeated 2 times.)	滿足各個特性之規格值 (Within standard mentioned in Initial Characteristics.)

十. 焊錫特性.

Solder Characteristics.

試驗項目 Test Item	試 驗 方 法 Test Method	結 果 Specification
焊錫附着性 (依據 JIS C0050 4.6 項) Solderability (JIS C0050,4.6)	將沾過助焊劑之導線,自距離導線熔接點根部 3mm 處起,浸於 265±5°C 之焊錫液中 5 秒鐘後,將導線之助焊劑洗淨後,檢查焊錫附着情形。(Apply flux and immerse in molten solder, up to the point of 3mm from the body, for 5 sec. (265°C±5°C). Wash the leadwire and check for soldering adhesion.)	導線須均勻附着 90% 以上 (Lead wire is evenly covered by solder over 90%.)
焊錫耐熱性 (依據 JISC0051) Solder Heat (JIS C0051)	將沾過助焊劑之導線,自距離導線熔接點根部 2mm 處起,浸於 265±5°C 之焊錫液中 10±1 秒鐘後,檢測直流開始放電電壓,絕緣阻抗,靜電容量及檢查外觀。(Lead wire is dipped up to the point of 2mm from the body, into 265°C±5°C solder for 10±1 sec. And measure the properties.)	滿足各特性之規格值 (Within standard mentioned in Initial Characteristics.)

十一. 突波特性.

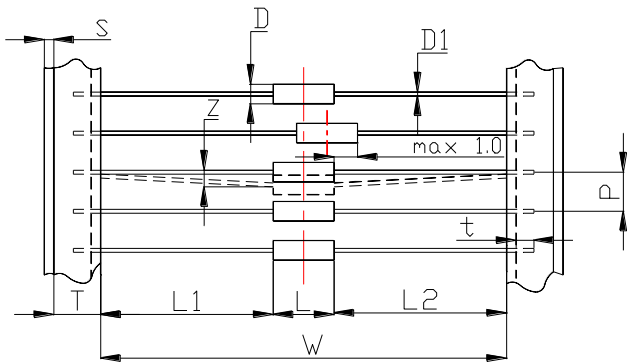
Surge Characteristics

試驗項目 Test Item	試驗方法 Test Method	結果 Specification
突波雷击壽命(JSE) Life(JSE)	將10X700µsec-2KV 突波,變換極向各5次,8X20µsec-100A之突波,變換極向各100次,每隔60秒施加於試料200次後,檢測直流開始放電電壓,絕緣阻抗,靜電容量及檢查外觀.(Apply a standard impulse voltage 10X700 µsec of 2KV for 5 times with intervals of 60 sec., and then change the polarity of the surge and apply a impulse again. And similarly, apply a impulse voltage 8 X 20 µsec) of 100A. Total apply 200times. Then measure DC spark-over volatage, IR & Capacitance.)	直流開始放電電壓 JSE $\Delta V_s/V_s \leq 30\%$ (DC spark-over volatage JSE: $\Delta V_s/V_s \leq 30\%$)
突波靜電壽命(JSE) Life(JSE)	每間隔10秒施加10KV之電壓於1500PF之電容器通過試料,做200次(Apply 10KV voltage charged in 1500pF condenser and apply the current to the specimen,200 times at 10 seconds of intervals.)	VS: $\Delta V_s/V_s \leq 30\%$ IR: 100M Ω min. C: 1 Pf max

十二. 包裝(Taping)

本規格書含 JSE, 系列突波吸收器之包裝.

This specification covers the taping of JSE series.

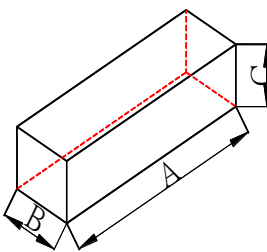


符號 MARK	尺寸 (Dimension)
W	52+2.0,-1.0
P	5.0±0.5
T	6.0±1.0
Z	1.2 max
L1-L2	0.8 max
S	0.8 max
t	3.2 max
L	5.3±1.0
D1	$\Phi 0.5 \pm 0.05$
D	$\Phi 3.1 \pm 0.3$

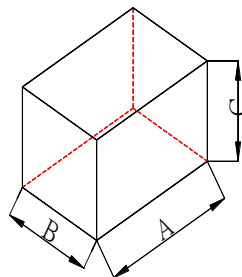
十三. 裝箱. (PACKAGE)

(1) 內盒裝 (Inner box)

(2) 外盒裝 (Carton):



項目 Item	容量 Description
長 Length	A=255mm
寬 Width	B=75mm
高 Height	C=68mm
數量 Q'ty	1500PCS
表示 Label	製品型號,製造LOT NO. Indicate Part No.&Lot No.
包裝 Package	內盒包裝有上,下墊紙板 There are upper and bottom 用來保護製品不受損害 protect the parts from



項目 Item	容量 Description
長 Length	A=390mm
寬 Width	B=270mm
高 Height	C=290mm
數量 Q'ty	30000PCS