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**2011**

# Electronic Materials Components

## Conductive Tape/Sheet

- Both-M (Multi-Layer Durable Metal Tape/Sheet)



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# Both-M™



**Horizontal & Vertical conductive**

**World Charming Product**

## 1 What is Both-M™?

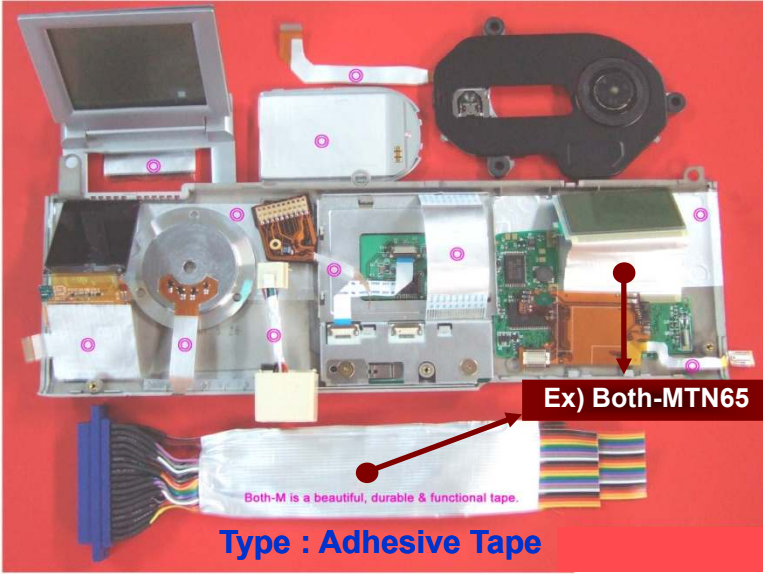
Both-M consists of PET Film in the center of anti-corrosion Al Foil at the both sides of the PET. Both-M is an embossed multilayer electric and thermal conductive Aluminum tape/sheet. Due to Al Foil, Both-M has good electric & thermal conductivity and PET film offers good flexibility & durable (no tear easily). So working efficiency is very good. Moreover after attachment of Both-M on a substrate (frame or case), curling is not happened. Both-M has good electrical conductivity at vertical direction because of numerous small holes which links top & bottom's Aluminum. Both-M is flame retardant due to both sides Aluminum Foil.

## 2 Features

Good Electric & Thermal Conductivity (Vertical & Horizontal) / Anti-Corrosion / Good Flexibility / Re-Work Available / Durable / UL Certification [E320366(UL 510) / E250169(UL 94 V-0)]

## 3 Application ESD / EMI / Thermal / Anti-Corrosion / Surface Protection

Wire & Cable, Plastic Case, Connector, FPCB, Heat Sink, Pipe, Frame Edge, Display Unit, Note book computer



## 4 Comparison Table

	Both-M Tape/Sheet	Aluminum / Copper Tape/Sheet	Fabric Tape/Sheet
Thermal / Electrical Conductivity	Good	Good	No Good
Flexibility / Tear	Middle	No Good	Good
Working Efficiency	Good	No Good	Good
Wrinkle	Good	No Good	Good
Cutting & Handling	Good	No Good	Middle
Price	Low	Middle	High
Anti-Corrosion	Good	No Good	No Good

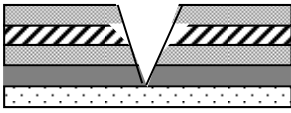
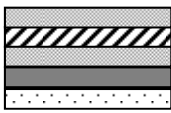
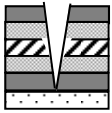
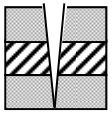
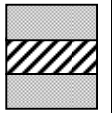
**5 How to order**

**P/N : Both – M    T    H    F    120 - 750 - 50**  
                          1)    2) 3) 4)    5)    6)    7)

1) Type	Multi-layer's Aluminum Film
2) Adhesive	T : Conductive Adhesive
3) Features	H : Hole Type, N : Non-hole Type
4) Function	F : Flame Retardant (UL), D : Double Adhesive
5) Thickness	120 : 120 $\mu$ m, 100 : 100 $\mu$ m, 75 : 75 $\mu$ m, 65 : 65 $\mu$ m, 50 : 50 $\mu$ m, 40 : 40 $\mu$ m
6) Width	580 : 580mm, 750 : 750mm
7) Length	50 : 50m, 200 : 200m

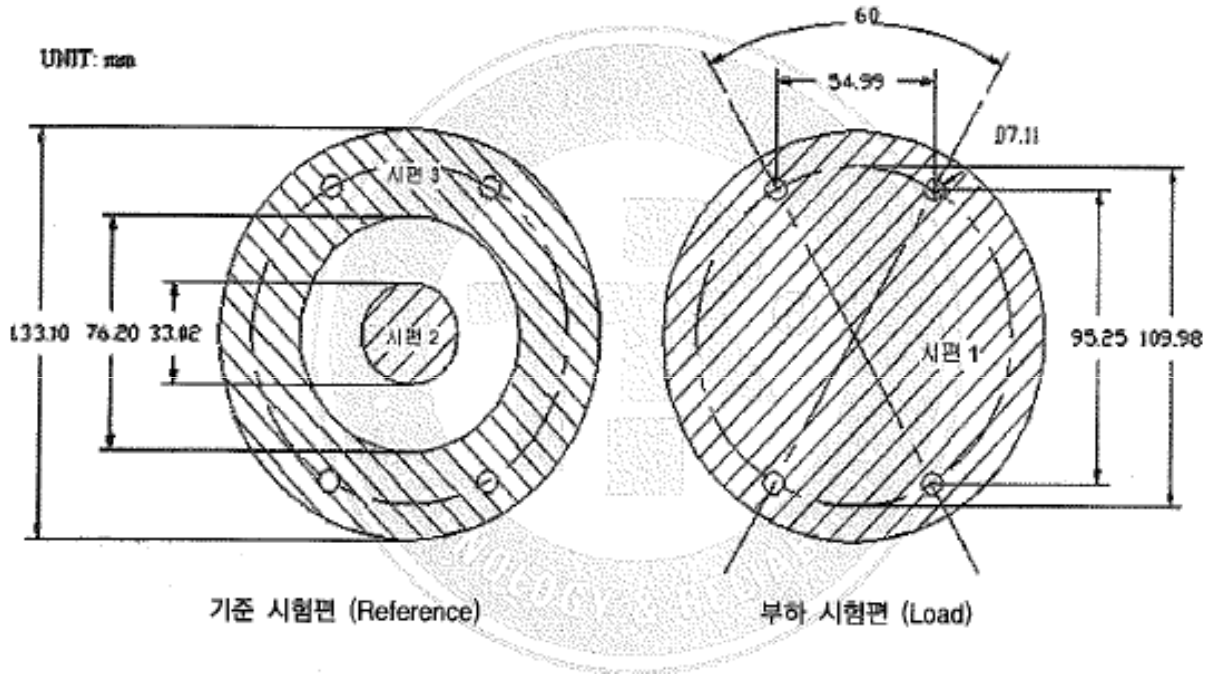
**6 Part Number & Specification**

 Embossed Metal Foil (Al)     PET Film     Conductive Adhesive (Acrylic)     Release Paper

Type	MTH65	MTH120	MTHF-75	MTHF-120	MTN65	MTN40	MTHD50	MH100	MN100
Structure									
Conductive Adhesive	One Side						Both Sides	Non-adhesive	
* Flame Retardant	No		Yes (UL 510)		No		No	Yes (UL 94 V-0)	
Feature	Small Holes + Emboss				Emboss		Small Holes + Emboss		Emboss
Release Paper	Have							None	
Thickness	65 $\mu$ m	120 $\mu$ m	75 $\mu$ m	120 $\mu$ m	65 $\mu$ m	40 $\mu$ m	50 $\mu$ m	100 $\mu$ m	100 $\mu$ m
Standard Width (mm)	580mm	750mm	580mm	750mm	580mm	580mm	580mm	750mm	750mm
Standard Length (m)	50m				50m		50m	50m, 200m	
Weight (kg/roll)	8.5	16	10	17	8.5	7	10	32	32
Tensile Strength (Kgf/cm <sup>2</sup> )	300	350	300	350	350	350	200	350	500
Elongation Ratio (%)	2	4	2	4	10	2	1.5	4	4
Adhesive Force (g/in)	1,000				1,000	800	800	None	
Resistance	Horizontal	0.03 $\Omega$ /□			0.03 $\Omega$ /□		0.1 $\Omega$ /□	0.03 $\Omega$ /□	
	Vertical	0.05 $\Omega$			Depend on fixing and cutting		0.05 $\Omega$	0.05 $\Omega$	Depend on fixing and cutting
Environment	Halogen Free		Non-Halogen Free		Halogen Free				
	EU-RoHS Compliant								
Reliability	Resistance Change Ratio is lower than 5% under thermal shock, high temperature & humidity and salt spray test.								
* UL File No.	E320366 [UL 510] / E250169 [UL 94 V-0]								

**7 EMI Shielding effect**

- 1) Test Method : ASTM D 4935-99, KS C 0304:1998
- 2) Test Condition : Temperature(21~25°C), Humidity(45!55%RH), Air Pressure(99.1~99.8)
- 3) Specimen Spec. :



4) Test Result :

