

# TEST CERTIFICATE

FROM :Semitech Materials Company

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GRADE : FM-25N

Specification		Units	Spec.	Measured Values	Test Methods
Size	Width	mm	550	550	Scale
	Length	M	500	500	Encorder
Average Thickness		$\mu\text{m}$	Min. 26.0	26.3	Micrometer
			Max. 27.3		Methods
Tensile	MD	$\text{kgf/mm}^2$	Min. 16.0	22.38	ASTM-D882
Strength	TD		Min. 16.0	25.4	
Elongation	MD	%	Min. 80	100.1	
	at Break		TD	Min. 80	
Heat	MD	%	Max. 1.8	1.23	ASTM D-1204
Shrinkage	TD		Max. 0.0	-0.25	(150°C/30min)
Surface Roughness	Ra	$\mu\text{m}$	$0.4 \pm 0.03$	0.392	JIS-B0601
	Rz		$3.8 \pm 0.3$	3.865	
	Rmax		$4 \pm 0.3$	4.015	
Resistance	FRONT	ohm	-	1.5E16	ASTM-D257
	BACK	ohm	-	3.2E16	
External	Shifted layer(roll edge) : less than 1mm			OK	Naked eye
	Projecsjon edge : None			OK	
	Alien substance : less than 3EA/m <sup>2</sup>			OK	
Guarantee		12 month			