

PRODUCT DESCRIPTION

PHOSPHOROUS FILM DIFFUSION DATA

Diffusion Results
Spin Speed 5000 rpm
Silicon Polished P Type 111 10-20 ohm-cm

	30 Minutes 1100°C 25% O ₂ , 75% N ₂	2.5 Hours 1100°C 25% O ₂ , 75% N ₂	60 Minutes 1220°C 25% O ₂ , 75% N ₂	90 Minutes 1235°C 25% O ₂ , 75% N ₂
Solution	Sheet Resistance ohm/square	Sheet Resistance ohm/square	Sheet Resistance ohm/square	Sheet Resistance ohm/square
P450*				0.08
P451*				0.09
P452*				1.00
P509	3.6	2.1	2.8	2.1
P508	4.8	2.2	3.7	3.0
P507	5.8	3.5	5.0	4.0
P506	7.6	3.9	13.0	5.1
P505	20.4	7.5	16.0	7.5
P504	39.2	11.6	40.0	10.6
P503	92.1	25.3	46.0	14.6
P502	182.0	38.5	71.0	17.0
P501	310.0	42.7	91.0	18.0
P500	735.0	47.8	130.0	24.0

* Some surface damage will occur with P450-452 due to concentration. No damage occurs with P500-P509.

Note: Slightly lower sheet resistivities can be obtained with more oxygen in the diffusion gas.

Typical Chemical Analysis

Na	<0.05ppm	Ni	<0.05ppm
K	<0.05ppm	Mn	<0.05ppm
Fe	<0.05ppm	Cr	<0.05ppm

FILMTRONICS
SEMICONDUCTOR PROCESS MATERIALS