

FPCB 가

Study of Laser Machining Properties about Raw Material FPCB

*H. S. Bae(baehs@jettech.co.kr), K. H. Ryu , G. J. Nam
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Key words : PCB, FPCB, laser cutting, routing

1.
(Printed Circuit Board)
(Copper-)
(Active Component)
(Passive Component)

PCB
가 가
(Flexible Printed Circuit Board)
가 FPCB 1950 Rogers
Mektron(NOK) 1960
FPCB 1980
FPCB
Rigid-Flexible(R-FPCB)
FPCB

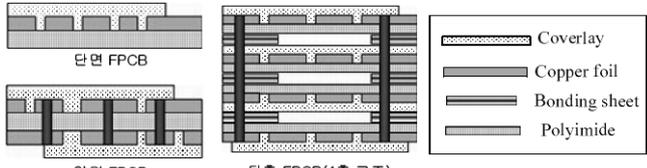


Fig. 1 Structure of FPCB

FPCB/R-FPCB 가
FPCB/R-FPCB
FPCB/R-FPCB (stress),
scratch
CNC FPCB/R-FPCB
chipping, delamination scratch
가
R-FPCB / 가 가
가
FPCB/R-FPCB
FPCB/R-FPCB
chipping,
delamination scratch
CAD 가 가
가

FPCB Coverlay, Copper foil, fcl, fcl,
bonding sheet UV nano-DPSS laser cutting

2. 시스템 및 공정 조건

UV nano-second DPSS laser 가
galvanometer scanner
가 160 mm F-theta lens
beam spot size 40 μ m 가
air blow air drain
laser 20 W , 355 nm . Pulse
250 kHz가 가 pulse width 20 μ s .
spot overlap pulse repetition rate
100uJ 가 beam attenuator

Fig. 2

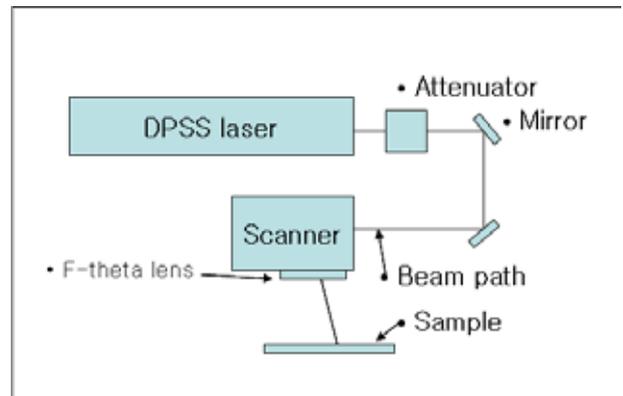


Fig. 2 Systme set-up

Table. 1

Table. 1 Process codition

energy (uJ)	100
pulse width (nsec)	20
가 ()	1
pulse repetition rate (kHz)	10, 20, 50, 100
spot overlap (%)	30, 60, 90
sample (5)	Coverlay, Copper foil, fcl, fcl, bonding sheet

40 μ m spot size

100uJ,

