

세계 WDM 시장 규모 전망

■ 광감쇄기(Optical tunable attenuator)

출처 : 젠포토닉스(주)

	Dim	Loss (dB)	Speed (ms)	Control Voltage/Power	Att. Range (dB)	PDL(dB) (-15)	WS(dB) (-15)	Resol. (dB)	Remarks
Micro-optic(DC Motor)	S	1.2		5~25 V	>30	<0.2	0.3	0.1	JDS
Micro-optic (Stepper Motor)	S	0.5		5~24 V	>30 <40	<0.2	0.2 (-2.0)	<0.05	JDS, E-Tek Latch
Thermo-optic Fiber	S	<0.2	>1	<400 mW	>30	<0.2	<0.5		MOEC
Piezo-optic Fiber	S	<2	<2ms	<200 mW	>15				FiberPro
Thermo-optic Waveguide(silica)	S	<2	2~5	<600 mW	<20	<1	1		Noel
Thermo-optic Waveguide	S	<1	<5	<100 mW	>30	<0.2	<0.5	<0.1	Expected by 2000
	D	<1	<5	<100 mW	>30	<0.2	<0.5	<0.1	
	Q	<1	<5	<100 mW	>30	<0.2	<0.5	<0.1	

■ 광스위치(Optical switch)

출처 : 젠포토닉스(주)

	Dim	Loss (dB)	Speed (ms)	Switching V/Power (V/mW)	Isolation (dB)	PDL (dB)	Reapeatability (dB)	Remarks
Micro-optic Miniature	1×1	<0.6	5~15	5~24V	>60	<0.04	<0.02	JDS, Latching
	1×2(S)	<0.6	5~15	5~24V	>60	<0.04	<0.02	JDS, E-Tek, Latching \$700(S)
	1×2(D)						<0.02	-25% without Latching
	1×4	<0.6	5~15	5~24V		<0.04	<0.02	JDS, E-Tek, Latching \$1,650
	1×8	<0.8	<10	5~24V	>60	<0.1		JDS, E-Tek, Latching \$3,250
	1×32	0.4	25	5~24V		0.03		JDS, E-Tek \$8,000
	1×100	0.7	25	5~24V		0.03		JDS, E-Tek
	2×2	<0.6	5~15	5~24V	>60	<0.04	<0.02	JDS, E-Tek, Latching
	32×32	~1		IEEE488			0.01	JDS, E-Tek \$18,000
	64×64	<1.6		IEEE488			0.01	JDS, E-Tek
Thermo-optic Waveguide (Polymer)	1×2(S)	<2.5	<2	200~300 mW (5~10 V)	>25	<0.2	<0.05 <0.05	JDS, Compact Size
	1×2(D)							
	1×2(Q)							
	2×2(S)	<3.5	<2	350~650 mW (7~12 V)	>30	<0.3		JDS, Compact Size
	2×2(D)							
	2×2(Q)							
	1×4(S, D, Q)	<3	<2	500 mW	>30	<0.3		Expected by 2000
	1×4(S, D, Q)	<3.5	<2	600 mW	>30	<0.3		Expected by 2000

■ 광필터(Tunable wavelength filter)

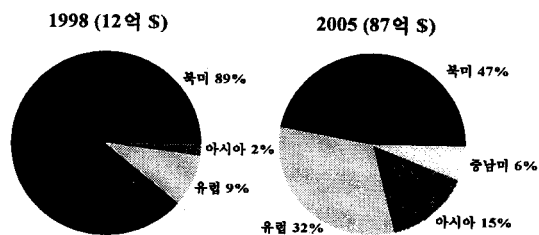
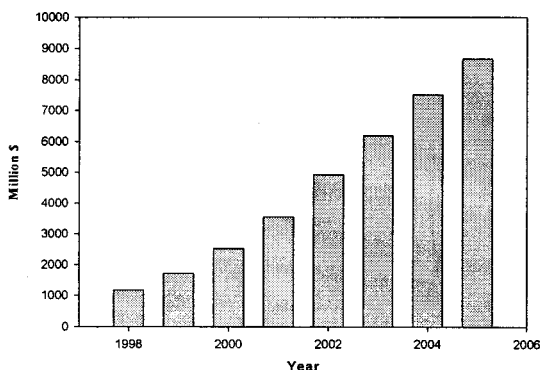
출처 : 젠포토닉스(주)

	Dim	Loss (dB)	Tuning Range (nm)	-3dB BW (nm)	Speed (ms)	Tuning Voltage/Power	PS (nm)	TS(dB) (nm/C)	PDL (dB)	Remarks
Dielectric Filter (Tilting)	S	<3	C-band	1.5	Manual					
Fiber Fabry-Perot (Piezo)	S	1.5	C-band	0.1~4	<0.1	<10V	0	1.5	0.1	JDS, MOL F:150, \$6,000 FSR:50 nm
LiNbO3 (Acousto-Optic)										
Polymer (heating)	S	<0.5	C-band	0.5	<5	<100mW	<0.05		<0.3	Expected by 2000
	D	<0.5	C-band	0.5	<5	<100mW	<0.05		<0.3	
	Q	<0.5	C-band	0.5	<5	<100mW	<0.05		<0.3	

■ ADM (Add Drop Multiplexer)

출처 : 젠포토닉스(주)

	Dim (Spacing, GHz)	Loss (dB)	BW (nm)	Adj Isol ation (dB)	Att. Isol ation (dB)	Channel Uniformity (dB)	PS (nm)	PDL (dB)	TS (nm/C)	Remarks
Dielectric Filter (1xn)	1×4(100)	<4	>0.22(0.5dB)	>25	>40	<1.5	0	<0.1	0.002	E-Tek, JDS NEC \$6,000
	1×8(100)	<5	>0.22(0.5dB)	>25	>30	<0.2	0.2	<0.1	0.002	E-Tek, JDS NEC \$12,500
	1×16(100)	<7	>0.22(0.5dB)	>25	>30	<0.2	<0.5	<0.1	0.002	E-Tek, JDS NEC \$14,500
Dielectric Filter (1xn)	1×16(100) 1×32(100) 1×40(100)	8	0.34	>22	>40	<1.5	0	<0.5	0.004	PIRI, TC Normal Band \$13,000(1x16)
Dielectric Filter (1xn)	1×4(100) 1×8(100) 1×16(100)	<4.5	0.3(dB)	>35						APA, E-Tek NEC, 0~60 \$12,000(1×16)
Polymer	Similar performance with silica may be achieved									Expected by 2000



출처 : 젠포토닉스(주)/ETRI 기술정보센터, 주간기술동향 876호, 1998.12. 9.

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