

PRELIMINARY

ML7xx28 SERIES

Notice: Some parametric limits are subject to change

10Gbps InGaAsP DFB LASER DIODE

**TYPE
NAME**

ML792E28/ ML792H28

DESCRIPTION

ML7xx28 series are uncooled DFB (Distributed Feedback) laser diodes for 10Gbps transmission emitting light beam at 1310nm. $\lambda/4$ phase shifted grating structure is employed to obtain excellent SMSR performance under 10Gbps modulation. Furthermore, ML7xx28 is able to operate in the wide temperature range from 0°C to 70°C without temperature control.

APPLICATION

10Gbps Ethernet/Short Reach

*****Specification Note**

Type	Matching Resistance :Rs
ML792E28-01 ML792H28-01	42 ± 1 ohm

FEATURES

- $\lambda/4$ phase shifted grating structure
- Wide temperature range operation (0°C to 70°C)
- High side-mode-suppression-ratio (typical 45dB)
- High resonance frequency (typical 15GHz)
- Chip-on-carrier

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Conditions	Ratings	Unit
Po	Output power	CW	6	mW
If	Laser forward current	-	120	mA
VRL	Laser reverse voltage	-	2	V
Tc	Operation temperature	-	0 ~ +70	°C
Tstg	Storage temperature	-	-40 ~+100	°C

ELECTRICAL/OPTICAL CHARACTERISTICS (Tc=25°C)

Symbol	Parameter	Conditions	Limits			Unit
			Min.	Typ	Max	
Ith	Threshold current	CW	-	8	20	mA
		CW, Tc=70°C	-	20	30	mA
Iop	Operation current	CW, Po=5mW	-	30	40	mA
		CW, Po=5mW, Tc=70°C	-	60	80	mA
Vop	Operating voltage	CW, Po=5mW	-	1.1	1.8	V
η	Slope efficiency	CW, Po=5mW	0.15	0.20	-	mW/mA
λ_p	Peak wavelength	CW, Po=5mW, Tc= 0°C ~ +70°C	1290	1310	1330	nm
SMSR	Side mode suppression ratio	CW, Po=5mW, Tc= 0°C ~ +70°C	30	45	-	dB
θ_{\parallel}	Beam divergence angle (parallel)	CW, Po=5mW	-	25	40	deg.
θ_{\perp}	(perpendicular)	CW, Po=5mW	-	30	47	deg.
f	Resonance frequency	10Gbps, Ex=7dB, Ppeak=5mW	-	15	-	GHz
tr	Rise time(20%-80%)	10Gbps, Ex=7dB, Ppeak=5mW	-	30	40	psec
tf	Fall time(20%-80%)	4th order Bessel - Thompson Filter	-	30	50	



MITSUBISHI LASER DIODES
ML7XX28 SERIES

10Gbps InGaAsP DFB-LASER DIODE

OUTLINE DRAWINGS

