

**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	42 ± 1 ohm
ML792H28-01	

**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
$\eta$	Slope efficiency	CW,Po=5mW	0.15	0.20	-	mW/mA
$\lambda_p$	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	35	45	-	dB
$\theta_{\parallel}$	Beam divergence angle (parallel)	CW,Po=5mW	-	25	40	deg.
$\theta_{\perp}$	(perpendicular)	CW,Po=5mW	-	30	47	deg.
fr	Resonance frequency	10Gbps, Ex=7dB, Vpp=1.0V	-	15	-	GHz
tr	Rise time(20%-80%)	10Gbps, Ex=7dB, Vpp=1.0V	-	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

