



MM 980nm 25Gbps VCSEL (Top Emission)

QZV25MM0980T101 QZV25MM0980T102 QZV25MM0980T103



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Description

The QuantumZ - **QZV25MM0980TX0X** is multimode 25Gbps VCSEL with wavelength 980nm device has low electrical parasitics and proven high reliability. That has top side ohmic contacts with Signal-Ground (SG) configurations.

The device is available in singlet (1x1) or array configurations (1x4) and are compatible with wire-bonding and flip-chip bonding.

Features

- 980nm multimode emission
- High reliability & data rates from DC to 25Gbps
- High humidity robustness compliant with GR-468
- Low threshold, operating voltage & electrical parasitic
- Available as single chip & 4 channel array
- Available application for COB & flip chip processes
- Dual top contact configuration with common cathode electrodes
- Halogen & RoHS compliant

Applications

- Smart cables & consumer applications& Automotive
- Single channel & parallel fiber optical communication links





Absolute Maximum Ratings

Parameter	Rating	Unit
Max. operating power	6	mW
Max. operating current	12	mA
VCSEL reverse voltage	5	V
Operating temperature	0 to 105	°C
Storage temperature	-40 to 125	°C
Mounting temperature (max. 10sec)	260	°C

Recommended Operating Conditions

& Electro-Optic Characteristics

Daramatar	Symbol	Conditions	Ratings		S	Unit	
Parameter	Symbol	Conditions	Min.	Тур.	Max.	Unit	
Threshold		T=25°C		0.6	0.8		
current	Ith	T=105°C		0.8	1.0	ШA	
Slope efficiency	η	lop = 6.0mA, T=25°C		0.5		W/A	
Optical output	D	lop = 6.0mA, T=25°C	2.5	3.0			
power	Pout	lop = 6.0mA, T=105°C	2.0	2.5		mvv	
Forward voltage	V _f	lop=6.0mA, T=25°C	1.9	2.1	2.3	V	
Differential	D	lop=6mA,		00	110	Ω	
resistance	Kd	T=25°C~105°C		80			
Emission	2	lop = 6.0mA,	070	980	990	nm	
wavelength	Λ	T=25°C~105°C	970				
Spectral width,	۸۵	lop=6mA,		0.0		nm	
RMS	ΔΛ	T=25°C~105°C		0.8			
Wavelength Shift	dλ/dT	T = 25 °C~105 °C		0.07		nm/°C	
Modulation	£	lop=6mA, T=25°C	15	17			
bandwidth	I3dB	lop=9mA, T=105°C	14	16		GHZ	
Beam	0	lop = 6.0mA, Full		25	30	Deg	
divergence	0	width 1/e2		25			



Chip Outer Dimensions

Parameter	Min.	Тур.	Max.
Die length	225	250	275
Die width	225	250	275
Die height	125	150	175

Chip Layout



P: p-contact (anode) N: n-contact (common cathode)

RoHS Compliance

QuantumZ insists, via continuous improvement in technology and experiences, to utilize non-hazardous materials for manufacturing green products that are in compliance with the regulation as well as customers' GP demands. The relevant evidence of RoHS compliance is held as part of our controlled documentation for each of our compliant products.



Ordering Information

Product code	Data Rate	Description	Shipment Package
QZV25MM0980T101	25Gbps	Single VCSEL chip	Diced wafer on metal lead frame (1)
QZV25MM0980T401	25Gbps	1x4 VCSEL array	Diced wafer on metal lead frame (1)
QZV25MM0980T102	25Gbps	Single VCSEL chip	Grip ring (2)
QZV25MM0980T402	25Gbps	1x4 VCSEL array	Grip ring (2)
QZV25MM0980T103	25Gbps	Single VCSEL chip	Gel-Pak (3)
QZV25MM0980T403	25Gbps	1x4 VCSEL array	Gel-Pak (3)

(1) Full diced 4" wafer on UV tape on metal lead frame Ø 230mm, electronic wafer map provided

(standard high volume)

(2) Known Good Dies on UV tape on grip ring ϕ 150mm (medium volume)

(3) Known Good Dies in 2" Gel-Pak (low volume)



Diced wafer on UV tape on metal lead frame



Grip ring

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Gel-Pak

fight the world 04

