

Gas Analysis&Detection DFB module with TEC

Features

TEC and thermistor inside
 Stable single longitudinal mode emission
 Low-cost TO-can package
 Reliability: Telcordia GR-468. RoHS

Applications

Laser gas analysis and detection system



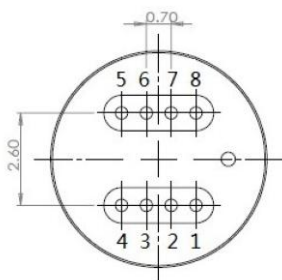
Absolute maximum ratings

Parameter	Symbol	Min.	Max.	Unit	Test condition
Storage temperature	T _{st}	-40	+85	°C	-
Operating temperature	T _{op}	-20	+70	°C	-
Reverse voltage	V _R		2	V	CW
Soldering temperature/time			260/10	°C /S	-

Optical & electrical characteristics(T=25°C)

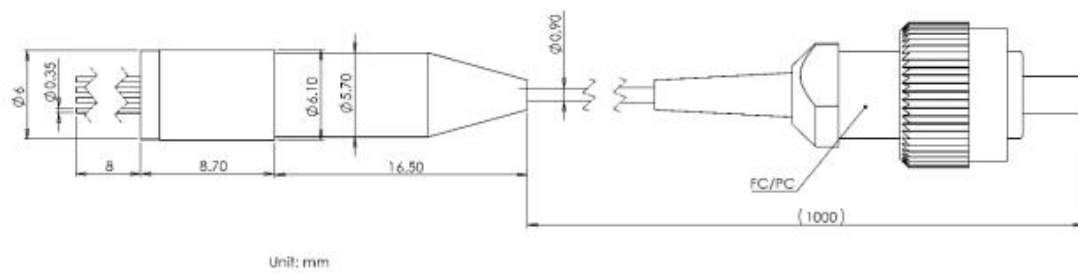
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Center wavelength	λ_c	$\lambda-2$	λ	$\lambda+2$	nm	-
Threshold current	I _{th}	-	8	15	mA	
Spectral width(-20dB)	$\Delta\lambda$	-	1	2	nm	CW,I _{th} +20mA
Side mode suppression ratio	SMSR	35	40	-	dB	
Output power	P	2	-	-	mW	CW,I _{th} +20mA
Operating voltage	V _{op}	-	1.1	1.5	V	CW,I _{th} +20mA
Rise/ Fall time	T _r /T _f	-	0.3	0.7	nS	CW,I _{th} +20mA
Monitor current	I _m	0.1	0.7	-	mA	CW,I _{th} +20mA
Optical Isolation	I _{so}	30	-	-	dB	-20~70°C
TEC Current	I _T	-	0.5	0.9	A	
TEC Voltage	V _T	-	-	1.2	V	
Thermistor B constant		-	4050	-	K	
Thermistor Resistance	R _T	9.5	10	10.5	K Ω	@25°C

PIN assignment



Pin	Symbol	Description
1	TEC+	TEC anode
2	R _{th}	thermistor
3	PD-	PD cathode
4	PD+	PD anode
5	LD-	LD cathode
6	LD+	LD anode
7	R _{th}	Thermistor
8	TEC-	TEC cathode

Dimensions Diagram



Order information

S-LT	XX	Cooled	X	X	X	XX
	Wavelength 01,1273nm 02,1278nm 03,1512nm 04,1653nm	0:without TEC 1:with TEC	Isolator 0,non 1,single stage	Output power M, 0.5~1mW H, >2mW S, spec.	Fiber 1,SM 2,MM	Add.info.

Appendix

Gas Composition	Wavelength
HF	1273nm
H ₂ O	1368nm、1392nm
NH ₃	1512nm、1531nm
C ₂ H ₂	1532.68nm
CO	1567nm
H ₂ S	1590nm
C ₂ H ₄	1627nm
CH ₄	1650.9nm、1653.7nm