



# High Speed 4.25Gbps 850nm VCSEL TO-46 Metal Can with Monitor Photodiode, -40 to 85°C

Part No. VCT-F85A43-4M (Common cathode) | VCT-F85A44-4M (Common anode)

## Features

- Industry TO-46 package with flat window for multimode fiber communication
- Packaged with monitoring PD
- High coupling efficiency for multi-mode fibers
- Support from DC to 4.25 Gbps data rate operation
- Isolated pinout configuration
- Wide operation temperature -40 to 85°C



## Specifications

Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage Temperature	-40	100	°C	
Operating Temperature	-40	85	°C	
Lead Solder Temperature		260	°C	10 seconds
Continuous Forward Current		12	mA	
Continuous Reverse Voltage		5	V	10uA

Electro-Optical Characteristics						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold Current	$I_{th}$		1.5	2.75	mA	
Slope Efficiency	$\eta$	0.08	0.12	0.16	mW/mA	$I_F=6\text{ mA}$
Forward Voltage	$V_F$	1.6	1.8	2.1	V	$I_F=6\text{ mA}$
Series Resistance	$R_S$		45	60	$\Omega$	$I_F=6\text{ mA}$
Wavelength	$\lambda_P$	830	850	860	nm	$I_F=6\text{ mA}^{(2)}$
Monitor Current	$I_M$	200		800	uA	$P_o=500\text{ uW}$
PD Capacitance	$C_{PD}$		12		pF	$V_R=3\text{ V}, f=1\text{ MHz}$
Spectral Width (RMS)	$\Delta\lambda$			0.85	Nm	$I_F=6\text{ mA}$

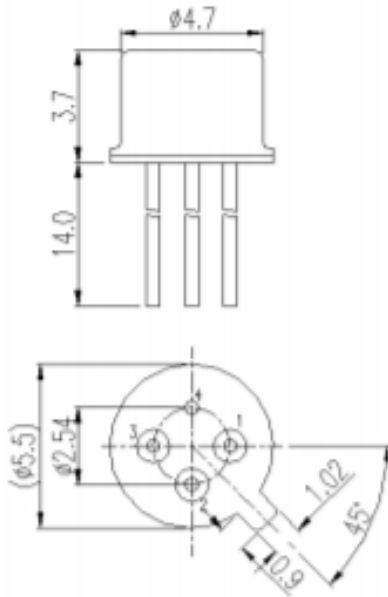
Notes:

1. All parameters except mentioned are measured at  $I_F=6\text{ mA}$ , 25°C, CW.
2. Minimum and Maximum values are valid over the entire ambient temperature range.

Thermal Characteristics						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
$I_{th}$ Temperature Variation	$\Delta I_{th}$			2.0	mA	$T_A=0\sim 70^\circ\text{C}$
			0.6			$T_A=-40\sim 25^\circ\text{C}$
				1.5		$T_A=25\sim 85^\circ\text{C}$
$V_F$ Temperature Coefficient	$\Delta V_F/\Delta T$		-2.5		mV/°C	$T_A=0\sim 70^\circ\text{C}, I_F=6\text{ mA}$
$\eta$ Temperature Coefficient	$\Delta\eta/\Delta T$	-0.6			%/°C	$T_A=0\sim 70^\circ\text{C}, I_F=6\text{ mA}$
$\lambda_P$ Temperature Coefficient	$\Delta\lambda_P/\Delta T$		0.06		nm/°C	$T_A=0\sim 70^\circ\text{C}, I_F=6\text{ mA}$



### Outline Dimensions (unit: mm)



### Pin Configuration

<b>VCT-F85A43-4M</b>		<b>VCT-F85A44-4M</b>	
Number	Function	Number	Function
1	VCSEL Anode	1	VCSEL Cathode
2	VCSEL Cathode	2	VCSEL Anode
3	PD Cathode	3	PD Cathode
4	PD Anode/Case	4	PD Anode/Case

### Additional Notes

The inherent design of this component causes it to be sensitive to electrostatic discharge (ESD). To prevent ESD-induced damage and/or degradation to equipment, take normal ESD precautions when handling this product.

Note: Specifications are subject to change without notice.