



# High Speed 4.25Gbps 850nm VCSEL TO-46 Metal Can with Monitor Photodiode, -10 to 85°C

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



## Specifications

Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage Temperature	-40	100	°C	
Operating Temperature	-10	85	°C	
Lead Solder Temperature		260	°C	10 seconds
Continuous Forward Current		20	mA	
Continuous Reverse Voltage		10	V	

Electro-Optical Characteristics (T <sub>a</sub> =25°C unless otherwise stated)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold Current	I <sub>th</sub>		1.5	2.75	mA	
Slope Efficiency	η	0.08	0.12	0.16	mW/mA	I <sub>F</sub> =6 mA
Forward Voltage	V <sub>F</sub>	1.6	1.8	2.1	V	I <sub>F</sub> =6 mA
Series Resistance	R <sub>S</sub>		45	60	Ω	I <sub>F</sub> =6 mA
Wavelength	λ <sub>P</sub>	830	850	860	nm	I <sub>F</sub> =6 mA <sup>(2)</sup>
Monitor Current	I <sub>M</sub>	200		800	uA	P <sub>o</sub> =500uW
PD Capacitance	C <sub>PD</sub>		12		pF	V <sub>R</sub> =3V, f=1MHz
Spectral Width (RMS)	Δλ			0.85	Nm	I <sub>F</sub> =6 mA

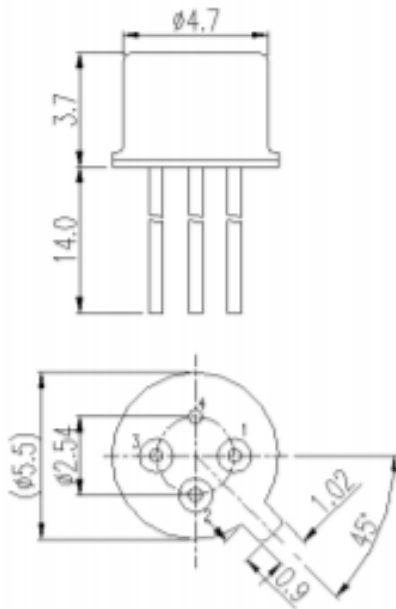
### Notes:

1. All parameters except mentioned are measured at I<sub>F</sub>=6 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 <sub>th</sub> Temperature Variation	ΔI <sub>th</sub>	-1.5		1.5	mA	T <sub>A</sub> =0~70°C
V <sub>F</sub> Temperature Coefficient	ΔV <sub>F</sub> /ΔT		-2.5		mV/°C	T <sub>A</sub> =0~70°C, I <sub>F</sub> =6 mA
η Temperature Coefficient	Δη/ΔT	-0.6			%/°C	T <sub>A</sub> =0~70°C, I <sub>F</sub> =6 mA
λ <sub>P</sub> Temperature Coefficient	Δλ <sub>P</sub> /ΔT		0.06		nm/°C	T <sub>A</sub> =0~70°C, I <sub>F</sub> =6 mA



**Outline Dimensions (unit: mm)**



**Pin Configuration**

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