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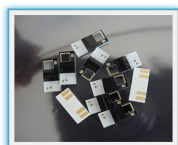
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Electrical Equipment, Components &amp; Telecoms

Wires, Cables &amp; Cable Assemblies



ZOOM



# DCM03 Reflectance Integrated SPO2 Blood Sensor

Category Electrical Equipment, Components & Telecoms > Wires, Cables & Cable Assemblies


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11 **APMKorea**

Country

 South Korea

Supplier Grade

**Main products**

Reflective SPO2 Blood Sensor  
Reflective SPO2 Blood Sensor  
Transmissive SPO2 Blood  
Sensor Detector  
Transmissive SPO2 Blood  
sensor emitter

[Minisite](#)

## Product Information

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## Company

The idea of using light reflection instead of light transmission in clinical oximetry shows that SpO<sub>2</sub> can be monitored by measuring the amount of light reflected from the tissue. The idea of using skin reflectance spectrophotometry marked a significant advancement in the noninvasive monitoring of SpO<sub>2</sub> from virtually any point on the skin surface.

The intensity of the back scattered light from the skin depends not only on the optical absorption spectrum of the blood but also on the structure and pigmentation of the skin. SpO<sub>2</sub> is measured by analyzing the pulsatile components of the detected red and infrared plethysmograms which make use of reflected light intensities. The light from the LEDs enters the tissue, is scattered by both the moving red blood cells and the nonmoving tissue, and a part of this back scattered light is detected by the photodiode.

The output of photodiode is processed by the pulse oximeter, and measures the SpO<sub>2</sub> of the pulsatile blood. In reflectance pulse oximetry, the LEDs and the photodiode are placed on the same side of the skin surface as shown below. Normally the reflectance probe is placed on the forehead or temple, but is not restricted to only those two places. Reflectance probes can be used to measure arterial oxygen saturation at virtually any place the human body where the probe can be placed.

DCM01 DCM02 developed by APMKorea is a sensor integrated built in LEDs and PD together with optimized properly against such trade-off to get proper parameters. Furthermore DCM01 DCM02 has SMD type package so that user could interconnect easily wire or flip bonding into your set.

This reflectance sensor can be placed on the body where you can expect light reflection due to tissue.

### Features

Integrated Dual Emitter and Photo Detector

Dual Red and IR LED Matched to SPO<sub>2</sub>

Chip on Board Package

### Applications

Reflective Oximeter Probes

Blood Analysis

Medical Instrumentation

Radiometric Instrument

**Absolute MAX. Ratings**(Ta=25°C unless otherwise noted)

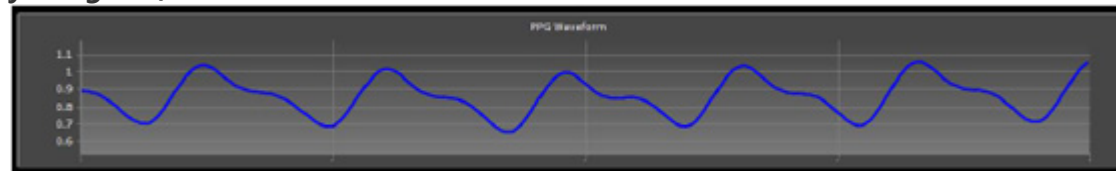
Symbol	Parameter	Max. Rated Value	Units
PD	Power Dissipation	120	mW
IF	Continuous Forward Current	50	mA
IFR	Peak Forward Current	100	mA
VR	Reverse Voltage	5	V
T stg	Storage Temp.	-20~+85	°C
T opr	Operating Temp.	-20~+85	°C
T sd	Soldering Temperature *1	240	°C

\*1. Test Condition : t<3s

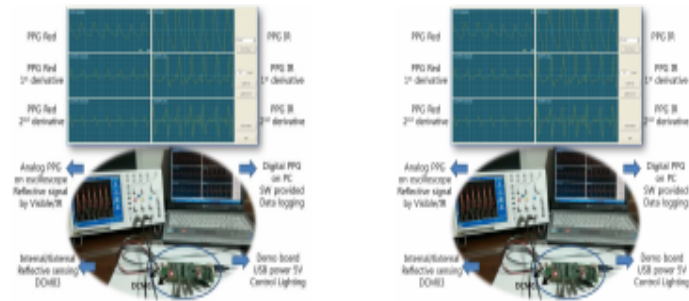
**Characteristics**(Ta=25°C unless otherwise noted)

Symbol	Characteristic	Components	Test Condition	Min	Typ	Max	Units
VF	Forward Voltage	LED1	IF=20mA		1.9	2.2	V
		LED2			1.3	1.5	
		PD		0.2		1.3	
IR	Reverse Breakdown Current	LED1, LED2	VR=5V			10	uA
P O	Output Power	LED1	IF=20mA		2		mW
		LED2			2		
		PD					
λ PEAK	Peak Wavelength	LED1	IF=20mA	650	660	670	nm
		LED2		880	905	910	
		PD			940		
Δλ	Half Wave Width	LED1	IF=20mA		30		nm
		LED2			60		
V BR	Reverse Breakdown Voltage	PD	IR=100uA	35			V
I D	Reverse Dark Current		V R=10V			20	nA
I L	Light Current		1mW, 940nm		45		uA
S	Spectral Response Range			400		1050	nm
CJ	Junction Capacitance		VR=3V, f=1MHz		44		pF

**PPG(Photo Plethysmogram) Characteristic**

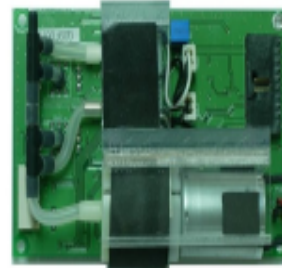


## Other Products from This Supplier

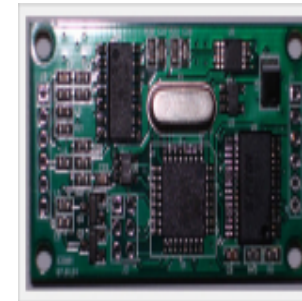


Evaluation Kit for  
Reflective SDPPG

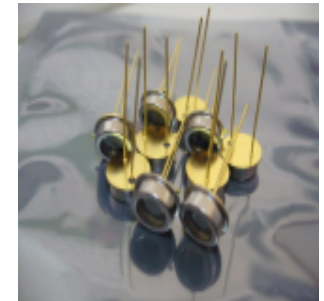
Evaluation Kit for  
reflective SDPPG



NIBP Blood Pressure  
Module



SPO2 Sensor Module



Optical Sensor

## Related Products



[M2I Corporation]  
XTOP12TS-SA HMI



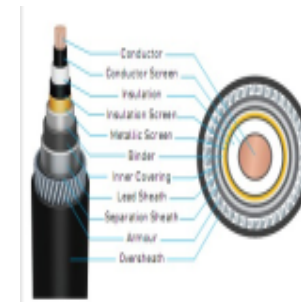
[M2I Corporation]  
XTOP07TW-LD-E HMI



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Processor



[M2I Corporation]  
XTOP10TS-SA, HMI,



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