Handheld Electrochemical Blood Glucose Meter

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Handheld Electrochemical Blood Glucose Meter

VISHAY Components used for Handheld Electrochemical Blood Glucose Meters, include:

- MOSFETS
- MOSFETS with integrated Schottkey diode
- IRDA Transceiver / Encoders
- Photo Detectors
- LED
- Tantalum Capacitors
- Ceramic Capacitors, Multi-Layer
-
- TVS Diodes
- Switching Diodes
- Zener Diodes
- NTC Thermistors
- Thick Film Chip Resistors
- Thin Film Chip Resistors
- Inductors

Application Overview

Handheld electrochemical blood glucose meters give the user the freedom to test his or her own blood glucose level anywhere and at any time. These devices are very handy gadgets for people suffering from diabetes. Frequent monitoring can be included in the treatment plan. Single measurements can be memorized in the devices' internal memory. The data subsequently can be transferred to a PC for further inspection by means of a USB or IrDA interface. Newer generations of electrochemical devices avoid insertion of blood-contaminated test strips into the devices. This ensures compliance with stringent hygiene standards.

Handheld Electrochemical Blood Glucose Meter : DATA INTERFACE, IrDA

Filter/Buffer Capacitor

Product Name	Status	Description	Features	Package	Q-Level
VJ C0G (NP0)		Multilayer ceramic chip capacitors	Ultra-stbl C0G dielectric TCC = ± 30 ppm/°C;	SMD 0402 - 1218	

IrDA Decoder/Encoder

Product Name	Status	Description	Features	Package	Q-Level
TOIM4232		SIR Enc/Dec for IrDA applications; integrated interface circuit	Low operating current	SMD SO-16	

IrDA Transceiver

Product Name	Status	Description	Features	Package	Q-Level
TFDU4300		Infrared Transceiver Module (SIR, 115.2 kbit/s) for IrDA® applications	Low power consumption; high-efficiency emitter; low profile (2.5 mm)	SMD	

Resistor

Product Name	Status	Description	Features	Package	Q-Level
CRCW0402 e3		Lead (Pb)-free thick film; rectangular chip resistors;	Excellent stability ΔR/R ΔR/R<=1% for 1000h at 70°C	SMD 0402	
CRCW0603 e3		Lead (Pb)-free thick film; rectangular chip resistors;	Excellent stability ΔR/R ΔR/R<=1% for 1000h at 70°C	SMD 0603	

ESD Protection

Product Name	Status	Description	Features	Package	Q-Level
VBUS054B-HS3		4-line bus port ESD protection	Ultra-compact size	SMD LLP75-6A	
VBUS054B-HSF		4-line bus port ESD protection	Ultra-compact size; low package height <=0.6mm	SMD LLP75-6L	

Resistor

Product Name	Status	Description	Features	Package	Q-Level
CRCW0402 e3		Lead (Pb)-free thick film; rectangular chip resistors;	Excellent stability ΔR/R ΔR/R<=1% for 1000h at 70°C	SMD 0402	
CRCW0603 e3		Lead (Pb)-free thick film; rectangular chip resistors;	Excellent stability ΔR/R ΔR/R<=1% for 1000h at 70°C	SMD 0603	

Resistor

Product Name	Status	Description	Features	Package	Q-Level
CRCW0402 e3		Lead (Pb)-free thick film; rectangular chip resistors;	Excellent stability ΔR/R ΔR/R<=1% for 1000h at 70°C	SMD 0402	
CRCW0603 e3		Lead (Pb)-free thick film; rectangular chip resistors;	Excellent stability ΔR/R ΔR/R<=1% for 1000h at 70°C	SMD 0603	

Resistor

Product Name	Status	Description	Features	Package	Q-Level
CRCW0402 e3		Lead (Pb)-free thick film; rectangular chip resistors;	Excellent stability ΔR/R ΔR/R<=1% for 1000h at 70°C	SMD 0402	
CRCW0603 e3		Lead (Pb)-free thick film; rectangular chip resistors;	Excellent stability ΔR/R ΔR/R<=1% for 1000h at 70°C	SMD 0603	

Resistor

Product Name	Status	Description	Features	Package	Q-Level
CRCW0402 e3		Lead (Pb)-free thick film; rectangular chip resistors;	Excellent stability ΔR/R ΔR/R<=1% for 1000h at 70°C	SMD 0402	
CRCW0603 e3		Lead (Pb)-free thick film; rectangular chip resistors;	Excellent stability ΔR/R ΔR/R<=1% for 1000h at 70°C	SMD 0603	

Resistor

Product Name	Status	Description	Features	Package	Q-Level
CRCW0402 e3		Lead (Pb)-free thick film; rectangular chip resistors;	Excellent stability ΔR/R ΔR/R<=1% for 1000h at 70°C	SMD 0402	
CRCW0603 e3		Lead (Pb)-free thick film; rectangular chip resistors;	Excellent stability ΔR/R ΔR/R<=1% for 1000h at 70°C	SMD 0603	

Resistor

Product Name	Status	Description	Features	Package	Q-Level
CRCW0402 e3		Lead (Pb)-free thick film; rectangular chip resistors;	Excellent stability ΔR/R ΔR/R<=1% for 1000h at 70°C	SMD 0402	
CRCW0603 e3		Lead (Pb)-free thick film; rectangular chip resistors;	Excellent stability ΔR/R ΔR/R<=1% for 1000h at 70°C	SMD 0603	

Silicon PIN Photodiode

Product Name	Status	Description	Features	Package	Q-Level
BPW34		High-speed and sensitive PIN Photodiode; Miniature flat plastic package; Sensitive to visible and IR radiation	Fast response times High photosensitivity λp=900nm	TH / Radial	
T1110P	new	High-speed silicon PIN photodiodes Bare silicon chip; 7.5 sq mm active area	Extra fast response times High photosensitivity λp=900nm	SMD 3×3×0.28mm	
TEMD5010X01		High-speed and sensitive PIN Photodiode; Miniature SMD; Visible and near IR radiation detection	Extra fast response times High photosensitivity λp=900nm	SMD 4.2×5×1.12mm	AEC-Q101

Resistor

Product Name	Status	Description	Features	Package	Q-Level
CRCW0402-P e3		Lead (Pb)-free thick film; rectangular chip resistors; Precision	Low TCR<= 25 ppm/K; tight Tol.<= ± 0.25%;	SMD 0402	
CRCW0603-P e3		Lead (Pb)-free thick film; rectangular chip resistors; Precision	Low TCR<= 25 ppm/K; tight Tol.<= ± 0.25%;	SMD 0603	
MCS 0402 Precision		Chip Resistors; Precision	Low TCR	SMD 0402	EN140401 -801
MCS 0402 Profess.		Chip Resistors; Professional;	Low TCR	SMD 0402	EN140401 -801
MCT 0603 Precision		Chip Resistors; Precision	Low TCR	SMD 0603	EN140401 -801
MCT 0603 Profess.		Chip Resistors; Professional;	Low TCR	SMD 0603	EN140401 -801
TNPW0402 e3		High-stability thin film chip resistor	Low TCR<=10ppm; tight R-Tol.<= ± 0.1%; Superior Moisture Perfor.	SMD 0402	
TNPW0603 e3		High-stability thin film chip resistor	Low TCR<=10ppm; tight R-Tol.<= ± 0.1%; Superior Moisture Perfor.	SMD 0603	

NTC Thermistor

Product Name	Status	Description	Features	Package	Q-Level
NTCS0402E3...	new	SMD; NTC thermistors	TCR from 6 to 2 %/K	SMD 0402	
NTCS0603E3...	new	Surface-mount, NTC thermistors	TCR from 6 to 2 %/K	SMD 0603	

Battery Voltage Control

Product Name	Status	Description	Features	Package	Q-Level
CRCW0402 e3		Lead (Pb)-free thick film; rectangular chip resistors;	Excellent stability ΔR/R ΔR/R<=1% for 1000h at 70°C	SMD 0402	
CRCW0603 e3		Lead (Pb)-free thick film; rectangular chip resistors;	Excellent stability ΔR/R ΔR/R<=1% for 1000h at 70°C	SMD 0603	

ESD Protection

Product Name	Status	Description	Features	Package	Q-Level
SMF...		Surface-mount ESD protection diodes	Low-profile package	SMD DO-219AB (SMF)	

P-Channel MOSFET

Product Name	Status	Description	Features	Package	Q-Level
Si3981DV	new	Battery load switch, dual MOSFET	TrenchFET power MOSFET	SMD TSOP-6	

Boost Inductor

Product Name	Status	Description	Features	Package	Q-Level
IHLP-1616AB-01	new	Low-profile; high-current inductor;	Low 1.2mm profile; IDC = 4A at 1 µH; shielded construction	SMD 1616	
IHLP-1616AB-11	new	Low-profile; high-current inductor;	Low 1.2mm profile; IDC = 2.75 A at 2.2 µH;	SMD 1616	
IHLP-1616BZ-01	new	Low-profile; high-current inductor;	Low 2.0-mm profile; IDC = 2.85 A at 2.2 µH;	SMD 1616	
IHLP-1616BZ-11	new	Low-profile; high-current inductor;	Low 2.0-mm profile; IDC = 1.7 A at 4.7 µH;	SMD 1616	

Buffer Capacitor

Product Name	Status	Description	Features	Package	Q-Level
572D		Conformal coated tantalum capacitor; high CV; low profile 0.8 - 1.7mm	Small size, low impedance	SMD EIA-Std.	
591D		Conformal-coated tantalum capacitor; high CV; low ESR; low profile 1.2 - 2.0mm	Small size, low impedance	SMD EIA-Std.	
592D		Conformal-coated tantalum capacitor; high CV; low profile 1.0 - 2.5mm	Small size, low impedance	SMD EIA-Std.	

N-Channel MOSFET

Product Name	Status	Description	Features	Package	Q-Level
Si2312CDS	NEW	N-channel VDS = 20 V MOSFET	rDS(on) = 318mOhms at VGS = 4.5 V; ID=6A	SMD SOT-23	

TVS Diode

Product Name	Status	Description	Features	Package	Q-Level
SMA5J5.0 thru 40CA		High power density; surface-mount TRANSZORB® TVS diode	500-W peak pulse power;	SMD DO-214AC (SMA)	
SMAJ5.0 thru 188CA		Surface-mount TRANSZORB® TVS diode	400-W peak pulse power;	SMD DO-214AC (SMA)	
SMP11 thru SMP36A	new	Surface-mount TRANSZORB® TVS diode	400-W peak pulse power; very low Profile < 1mm	SMD DO-220AA (SMP)	

Z-Diode

Product Name	Status	Description	Features	Package	Q-Level
AZ23-V		Small-signal Zener diodes Dual; common Anode;	Zener voltages graded according to E24 series	SMD SOT-23	
BZT52-V		Small-signal Zener diodes	Zener voltages graded according to E24 series	SMD SOD-123	
BZX84-V		Small-signal Zener diodes	Zener voltages graded according to E24 series	SMD	
DZ23-V		Small-signal Zener diodes Dual; common Cathode;	Zener voltages graded according to E24 series	SMD SOT-23	

Decoupling Capacitor

Product Name	Status	Description	Features	Package	Q-Level
VJ OMD - X7R		Surface-mount MLCC	Open mode design (OMD) reduces board flex cracks	SMD 0402 - 1218	

P-Channel MOSFET

Product Name	Status	Description	Features	Package	Q-Level
Si2305CDS		P-channel 1.25-W, VGS = 1.8 V MOSFET	Power MOSFETs: 1.8V Rated Vds=-8V; Id=4.3A RdsON=.065R@1.8V	SMD SOT-23	
Si3443CDV	NEW	P-channel 20-V (D-S) Mosfet	RDSon=0.06ohm ID= 4.7A; VGS= -4.5V	SMD TSOP-6	

Resistor

Product Name	Status	Description	Features	Package	Q-Level
CRCW0402 e3		Lead (Pb)-free thick film; rectangular chip resistors;	Excellent stability ΔR/R ΔR/R<=1% for 1000h at 70°C	SMD 0402	
CRCW0603 e3		Lead (Pb)-free thick film; rectangular chip resistors;	Excellent stability ΔR/R ΔR/R<=1% for 1000h at 70°C	SMD 0603	

LED

Product Name	Status	Description	Features	Package	Q-Level
TLMx1100		Ultra-bright 0603 LED	Smallest SMD package w. exceptional brightness	SMD 0603	
TLMx2100		MiniLED	SMD LEDs w. exceptional brightness	SMD	

Resistor

Product Name	Status	Description	Features	Package	Q-Level
CRCW0402 e3		Lead (Pb)-free thick film; rectangular chip resistors;	Excellent stability ΔR/R ΔR/R<=1% for 1000h at 70°C	SMD 0402	
CRCW0603 e3		Lead (Pb)-free thick film; rectangular chip resistors;	Excellent stability ΔR/R ΔR/R<=1% for 1000h at 70°C	SMD 0603	

LED

Product Name	Status	Description	Features	Package	Q-Level
TLMx1100		Ultra-bright 0603 LED	Smallest SMD package w. exceptional brightness	SMD 0603	
TLMx2100		MiniLED	SMD LEDs w. exceptional brightness	SMD	

N-Channel MOSFET

Product Name	Status	Description	Features	Package	Q-Level
Si3812DV		N-channel VDS = 20 V MOSFET with Schottky diode	rDS(on) = 125mOhms at VGS = 4.5 V; VF = 0.48 V at 0.5 A;	SMD TSOP-6	

Resistor

Product Name	Status	Description	Features	Package	Q-Level
CRCW0402 e3		Lead (Pb)-free thick film; rectangular chip resistors;	Excellent stability ΔR/R ΔR/R<=1% for 1000h at 70°C	SMD 0402	
CRCW0603 e3		Lead (Pb)-free thick film; rectangular chip resistors;	Excellent stability ΔR/R ΔR/R<=1% for 1000h at 70°C	SMD 0603	