

# Portable Media Player

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# Portable Media Player

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## VISHAY components used for a portable media player may include:

- Power Management ICs
- LDOs
- Power MOSFETS
- Analog Switches
- Diodes
- Visible LEDs
- ESD Protection Devices
- Capacitors
- Inductors
- Beads
- Resistors
- Thermistors
- Ambient Light Sensors

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## Application Overview

A portable media player, or PMP, is a device that is capable of storing and playing digital media, such as audio, images, and video. Some players include the ability to record audio, with a built-in microphone, line-out cable, or FM tuner. PMPs come with either flash or hard disk storage, with several players supporting memory card slots, including slots for CompactFlash (CF), Secure Digital (SD), and memory sticks. In addition to USB connectivity, many players also offer Bluetooth and/or Wi-Fi. Most PMP circuits include some or all of the system blocks shown above.

## Portable Media Player : AUDIO, Headphones

### Analog Switches

Product Name	Status	Description	Features	Package	Q-Level
DG2032	NEW	High-Bandwidth, Low-Voltage, Dual SPDT Analog Switch	Single Supply 1.8 - 5.5V Low rDS(on): 2.4 Ohms	SMD QFN-12 3x3	
DG2034		Single 4:1 Low Ron Multiplexers	Low Volt Oper. 1.8 - 5.5V Low rDS(on): 4 $\Omega$ Fast Switch - 25-ns tON	SMD QFN-12 3x3 MSOP-10	
DG4599		Single-Pole/Double-Throw Analog Switches	2.25- 5.5-V Single Supply 2 $\Omega$ Typ. RON Flatness Fast Switching	SMD SC70-6	

### Chip Resistors

Product Name	Status	Description	Features	Package	Q-Level
CRCW.... e3		Thick Film Rectangular Chip Resistors Lead (Pb)-Free	1 $\Omega$ to 1 M $\Omega$	SMD 0201-2512	

### EMI Filters

Product Name	Status	Description	Features	Package	Q-Level
VEMI255A-HS3		2-Channel EMI Filter with ESD Protection	R = 50 Ohms C = 60 pF	SMD LLP75-6A	

### Multilayer Ceramic Capacitors

Product Name	Status	Description	Features	Package	Q-Level
X7R Dielectric		MLCC, Ideal for Decoupling and Filtering	100 pF to 1 $\mu$ F	SMD 0402-3640	

### Tantalum Capacitors

Product Name	Status	Description	Features	Package	Q-Level
298D	NEW	Solid Tantalum Chip Capacitors MICROTAN® Leadframeless Molded	0.68 $\mu$ F to 220 $\mu$ F	SMD 0402-0805	
572D		Solid Tantalum Chip Capacitors TANTAMOUNT® Conformal-Coated	2.2 $\mu$ F to 220 $\mu$ F Low Profile, Max CV	SMD single-side term P,Q,S,A,B,T case	

### Zener Diodes

Product Name	Status	Description	Features	Package	Q-Level
BZX384 Series		Small-Signal Zener Diodes	VZ = 2.4 to 75 V	SMD SOD323	
BZX584C-02V	NEW	Small-Signal Zener Diodes	VZ = 2.4 to 51 V	SMD SOD523	

## Portable Media Player : AUDIO, Microphone

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### EMI Filters

Product Name	Status	Description	Features	Package	Q-Level
VEMI255A-HS3		2-Channel EMI Filter with ESD Protection	R = 50 Ohms C = 60 pF	SMD LLP75-6A	

### Multilayer Ceramic Capacitors

Product Name	Status	Description	Features	Package	Q-Level
X7R Dielectric		MLCC, Ideal for Decoupling and Filtering	100 pF to 1 $\mu$ F	SMD 0402-3640	

### Zener Diodes

Product Name	Status	Description	Features	Package	Q-Level
BZX384 Series		Small-Signal Zener Diodes	VZ = 2.4 to 75 V	SMD SOD323	
BZX584C-02V	NEW	Small-Signal Zener Diodes	VZ = 2.4 to 51 V	SMD SOD523	

## Portable Media Player : AUDIO, Speaker

### Analog Switches

Product Name	Status	Description	Features	Package	Q-Level
DG2034		Single 4:1 Low Ron Multiplexers	Low-Volt Oper. 1.8 - 5.5V Low rDS(on): 4 $\Omega$ Fast Switch - 25-ns tON	SMD QFN-12 3x3 MSOP-10	
DG2522	NEW	SP3T Analog Switch - 3:1 Multiplexer Fault Protection,		SMD MiniQFN-8	
DG2747	NEW	Dual SPST Analog Switch		SMD MiniQFN-8	

### Chip Resistors

Product Name	Status	Description	Features	Package	Q-Level
CRCW.... e3		Thick Film Rectangular Chip Resistors Lead (Pb)-Free	1 $\Omega$ to 1 M $\Omega$	SMD 0201-2512	

### EMI Filters

Product Name	Status	Description	Features	Package	Q-Level
VEMI255A-HS3		2-Channel EMI Filter with ESD Protection	R = 50 Ohms C = 60 pF	SMD LLP75-6A	

### Multilayer Ceramic Capacitors

Product Name	Status	Description	Features	Package	Q-Level
X7R Dielectric		MLCC, Ideal for Decoupling and Filtering	100 pF to 1 $\mu$ F	SMD 0402-3640	

### Tantalum Capacitors

Product Name	Status	Description	Features	Package	Q-Level
298D	NEW	Solid Tantalum Chip Capacitors MICROTAN® Leadframeless Molded	0.68 $\mu$ F to 220 $\mu$ F	SMD 0402-0805	
572D		Solid Tantalum Chip Capacitors TANTAMOUNT® Conformal-Coated	2.2 $\mu$ F to 220 $\mu$ F Low Profile, Max CV	SMD single-side term P,Q,S,A,B,T case	

### Zener Diodes

Product Name	Status	Description	Features	Package	Q-Level
BZX384 Series		Small-Signal Zener Diodes	VZ = 2.4 to 75 V	SMD SOD323	
BZX584C-02V	NEW	Small-Signal Zener Diodes	VZ = 2.4 to 51 V	SMD SOD523	

## Portable Media Player : BATTERY, Battery Management

### Chip Resistors

Product Name	Status	Description	Features	Package	Q-Level
CRCW.... e3		Thick Film, Rectangular Chip Resistors Lead (Pb)-Free	1 $\Omega$ to 1 M $\Omega$	SMD 0201-2512	
CRCW.... e3		Thin Film, Rectangular Chip Resistors 1 $\Omega$ to 1 M $\Omega$ Lead (Pb)-Free	0201-2512	SMD 0201-2512	

### Current Sense Resistors

Product Name	Status	Description	Features	Package	Q-Level
WSL		Power Metal Strip Resistor	0.001 to 0.500 Ohms Tol. = 0.5% or 1.0%	SMD 0603-2816	

### Multilayer Ceramic Capacitors

Product Name	Status	Description	Features	Package	Q-Level
X7R Dielectric		MLCC, Ideal for Decoupling and Filtering	100 pF to 1 $\mu$ F	SMD 0402-3640	
X7R Dielectric		MLCC, Ideal for Decoupling and Filtering	100 pF to 1 $\mu$ F	SMD 0402-3640	

### Power MOSFETs

Product Name	Status	Description	Features	Package	Q-Level
Si1499DH	NEW	P-Channel 1.2-V (G-S) Rated MOSFET	VDS = -8 V, ID = -1.6 A rDS(on) = 78 milliohms	SMD SOD323	
Si8424DB	NEW	N-Channel 1.2V (G-S) Rated MOSFET	VDS = 8 V, ID = 12.2 A rDS(on) = 31 milliohms	SMD MICRO FOOT 1.6 x 1.6	
Si8429DB	NEW	P-Channel 1.2V (G-S) Rated MOSFET	VDS = -8 V, ID = -11.7 A rDS(on) = 35 milliohms	SMD MICRO FOOT 1.6 x 1.6	
Si8441DB	NEW	P-Channel 1.2-V (G-S) Rated MOSFET	VDS = -20 V, ID = -10.5 A rDS(on) = 80 milliohms	SMD MICRO FOOT 1.5 x 1	
Si8445DB	NEW	P-Channel 1.2-V (G-S) Rated MOSFET	VDS = -20 V, ID = -9.8 A rDS(on) = 84 milliohms	SMD MICRO FOOT 1.2 x 1	
SiA414DJ	NEW	N-Channel 1.2V (G-S) Rated MOSFET	VDS = -8 V, ID = -12 A rDS(on) = 11 milliohms	SMD PowerPAK SC-70	
SiA417DJ	NEW	P-Channel 1.2V (G-S) Rated MOSFET	VDS = -8 V, ID = -12 A rDS(on) = 23 milliohms	SMD PowerPAK SC-70	
SiA419DJ	NEW	P-Channel 1.2V (G-S) Rated MOSFET	VDS = -20 V, ID = 12 A rDS(on) = 30 milliohms	SMD PowerPAK SC-70	
SiB414DK	NEW	N-Channel 1.2V (G-S) Rated MOSFET	VDS = 8 V, ID = 9 A rDS(on) = 26 milliohms	SMD PowerPAK SC-75	
SiB417DK	NEW	P-Channel 1.2V (G-S) Rated MOSFET	VDS = -8 V, ID = -9 A rDS(on) = 52 milliohms	SMD PowerPAK SC-75	
SiB417EDK	NEW	P-Channel 1.2V (G-S) Rated MOSFET	VDS = -8 V, ID = -9 A rDS(on) = 58 milliohms	SMD PowerPAK SC-75	

### Schottky Diodes

Product Name	Status	Description	Features	Package	Q-Level
BAS40-02V		Small-Signal Schottky Diodes	VR = 40 V	SMD SOD523	
BAS520-02V		Small-Signal Schottky Diodes	VR = 30 V	SMD SOD523	

Product Name	Status	Description	Features	Package	Q-Level
BAS581-02V		Small-Signal Schottky Diodes	VR = 40 V	SMD SOD523	
BAS70-02V		Small-Signal Schottky Diodes	VR = 70 V	SMD SOD523	
BAT54-02V		Small-Signal Schottky Diodes	VR = 30 V	SMD SOD523	
MSS1P2L	NEW	20-V, 1A SMD Schottky Barrier Rectifiers	VR = 20 V, IF = 1 A	SMD microSMP	
MSS1P3L	NEW	30-V, 1A SMD Schottky Barrier Rectifiers	VR = 30 V, IF = 1 A	SMD microSMP	

#### Switching Diodes

Product Name	Status	Description	Features	Package	Q-Level
1N4148WS		Small-Signal Fast-Switching Diode	VR = 75 V	SMD SOD323	
BAS16WS-V		Small-Signal Fast-Switching Diode	VR = 75 V	SMD SOD323	
BAV19WS		Small-Signal Fast-Switching Diode	VR = 100 V VR = 150 V VR = 200 V	SMD SOD323	

#### Zener Diodes

Product Name	Status	Description	Features	Package	Q-Level
BZX384 Series		Small-Signal Zener Diodes	VZ = 2.4 to 75 V	SMD SOD323	
BZX584C-02V	NEW	Small-Signal Zener Diodes	VZ = 2.4 to 51 V	SMD SOD523	

## Portable Media Player : COMMUNICATION, Bluetooth

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### Attenuators

Product Name	Status	Description	Features	Package	Q-Level
CZA04S and CZA06S		Surface-Mount Chip Resistor Attenuator	50 to 600 Ohms	SMD 0402-0603	

### Bandswitching Diodes

Product Name	Status	Description	Features	Package	Q-Level
BA892V-02V		Single Bandswitching Diodes for bandswitching up to 3 GHz	VF = 1.1 V, IR = 20 nA CD = 1 pF	SMD	

### Inductors

Product Name	Status	Description	Features	Package	Q-Level
IFCB-0402		Thin Film Ceramic Chip Inductor	1 nH to 22 nH	SMD	

### Multilayer Ceramic Capacitors

Product Name	Status	Description	Features	Package	Q-Level
X7R Dielectric		MLCC, Ideal for Decoupling and Filtering	100 pF to 1 $\mu$ F	SMD 0402-3640	

### Multilayer Ferrite Beads

Product Name	Status	Description	Features	Package	Q-Level
ILBB-0402		Multilayer Ferrite Beads	20 to 600 Ohms @ 100 MHz	SMD 0402	
ILBB-0603		Multilayer Ferrite Beads	10 to 2000 Ohms @ 100 MHz	SMD 0603 0805-1206	

### RF Capacitors

Product Name	Status	Description	Features	Package	Q-Level
HPC0201A		High-Precision SMD 0201 Capacitor High-Performance,	0.1 pF to 39 pF	SMD 0201	
HPC0402A		High-Precision SMD 0402 Capacitor High-Performance,	0.1 pF to 180 pF	SMD 0402	
HPC0603A		High-Precision SMD 0603 Capacitor High-Performance,	0.8 pF to 1000 pF	SMD 0603	

## Portable Media Player : COMMUNICATION, FM Receiver

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### Bandswitching Diodes

Product Name	Status	Description	Features	Package	Q-Level
BA892V-02V		Single Bandswitching Diodes for bandswitching up to 3 GHz	V <sub>F</sub> = 1.1 V, I <sub>R</sub> = 20 nA C <sub>D</sub> = 1 pF;	SMD SOD523	

### RF Capacitors

Product Name	Status	Description	Features	Package	Q-Level
HPC0201A		High-Precision SMD 0201 Capacitor High-Performance,	0.1 pF to 39 pF	SMD 0201	
HPC0402A		High-Precision SMD 0402 Capacitor High-Performance,	0.1 pF to 180	SMD 0402	
HPC0603A		High-Precision SMD 0603 Capacitor High-Performance,	0.8 pF to 1000 pF	SMD 0603	

### Zener Diodes

Product Name	Status	Description	Features	Package	Q-Level
BZX384 Series		Small-Signal Zener Diodes	V <sub>Z</sub> = 2.4 to 75 V	SMD SOD323	
BZX584C-02V	NEW	Small-Signal Zener Diodes	V <sub>Z</sub> = 2.4 to 51 V	SMD SOD523	

## Portable Media Player : COMMUNICATION, WiFi

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### RF Capacitor

Product Name	Status	Description	Features	Package	Q-Level
HPC0201A		High-Precision SMD 0201 Capacitor High Performance	0.1 pF to 39 pF	SMD 0201	
HPC0402A		High-Precision SMD 0402 Capacitor High Performance	0.1 pF to 180 pF	SMD 0402	
HPC0603A		High-Precision SMD 0603 Capacitor High Performance	0.8 pF to 1000 pF	SMD 0603	

## Portable Media Player : PERIPHERALS, Docking Connector

### ESD Protection

Product Name	Status	Description	Features	Package	Q-Level
VESD05A1B-HD1		ESD Protection Diode in LLP1006-2L	CD = 12 pF	SMD LLP1006-2L	
VESD09A4A-HS4	NEW	4-Line (Quad) ESD Protection Diode Array	CD = 10 pF Low Leakage < 0.1 $\mu$ A 0.4-mm profile	SMD LLP1010-6L	

### Power MOSFETs

Product Name	Status	Description	Features	Package	Q-Level
Si2309CDS	NEW	P-Channel 60-V (D-S) MOSFET	VDS = -60 V, ID = -1.6 A rDS(on) = .345 $\Omega$ @-10V	SMD SOT-23	
Si3457CDV		P-Channel 30-V (D-S) MOSFET	VDS = -30 V, ID = -5.1 A rDS(on) = 74 milliohms	SMD TSOP-6	
Si3493BDV		P-Channel 20-V (D-S),MOSFET 1.8V(G-S); PWM Optimized	VDS = -20 V, ID = -8 A rDS(on)=27.5m $\Omega$ @-4.5V	SMD TSOP-6	
SiA421DJ	NEW	P-Channel 30-V (D-S) MOSFET	VDS = -30 V, ID = -12 A rDS(on) = 35 milliohms	SMD PowerPAK SC-70-6L	

### Schottky Diodes

Product Name	Status	Description	Features	Package	Q-Level
MSS1P3L	NEW	30-V, 1A SMD Schottky Barrier Rectifiers	VR = 30V, IF = 1 A	SMD microSMP	
SS12 through SS16		Low-VF, High-Current-Density SMD	VR = 20 V to 60 V IF = 1 A	SMD SMA	
SS1P3L		Low-VF, High-Current-Density SMD	VR = 30V, IF = 1 A	SMD SMP	

## Portable Media Player : PERIPHERALS, Memory

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### Chip Resistors

Product Name	Status	Description	Features	Package	Q-Level
CRCW.... e3		Thick Film Rectangular Chip Resistors Lead (Pb)-Free	1 $\Omega$ to 1 M $\Omega$	SMD 0201-2512	

### ESD Protection

Product Name	Status	Description	Features	Package	Q-Level
VBUS051BD-HD1		Single-Line ESD Protection Diode; Low Capacitance,	CD = 0.9 pF 0.4-mm profile	SMD LLP1006-2L	
VBUS054B-HS3		4-Line BUS Port ESD protection	CD = 0.8 pF	SMD LLP75-6A	
VESD05A4A-HS4		4-Line (Quad) ESD Protection Diode Array	CD = 12 pF 0.4-mm profile	SMD LLP1010-6L	

### Multilayer Ceramic Capacitors

Product Name	Status	Description	Features	Package	Q-Level
X7R Dielectric		MLCC, Ideal for Decoupling and Filtering	100 pF to 1 $\mu$ F	SMD 0402-3640	

### Resistor Arrays

Product Name	Status	Description	Features	Package	Q-Level
CRA04P		Thick Film Resistor Array	1 $\Omega$ to 1 M $\Omega$	SMD 2.0x1.0 mm	

## Portable Media Player : PERIPHERALS, USB

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### Analog Switches

Product Name	Status	Description	Features	Package	Q-Level
DG2720		Ultra-Portable USB 2.0 for 2-Port Switching	2.7-V to 4.3-V Supply 1.3-V Control Logic 620-MHz bandwidth	SMD miniQFN-10	

### ESD Protection

Product Name	Status	Description	Features	Package	Q-Level
VBUS051BD-HD1	NEW	Single-Line ESD Protection Diode Low Capacitance,	CD = 0.9 pF 0.4-mm profile	SMD LLP1006-2L	
VBUS052CD-FAH	NEW	2-Line BUS Port ESD Protection - Flow-Through Design	CD = 0.8 pF 0.6-mm profile	SMD LLP1713-7L	
VBUS054B-HS3		4-Line BUS Port ESD Protection	CD = 0.8 pF	SMD LLP75-6A	
VESD05A4A-HS4	NEW	4-Line (Quad) ESD Protection Diode Array	CD = 12 pF 0.4-mm profile	SMD LLP1010-6L	

## Portable Media Player : POWER MANAGEMENT, Charge Control

### Battery Charger ICs

Product Name	Status	Description	Features	Package	Q-Level
Si9731		µP Controlled Li-ion Battery Charger Pulse Charges 1 to 3 Cells Integrated MOSFETs	PWM Controlled TSSOP-16	SMD TSSOP-16	

### Chip Resistors

Product Name	Status	Description	Features	Package	Q-Level
CRCW.... e3		Thick Film Rectangular Chip Resistors Lead (Pb)-Free	1 Ω to 1 MΩ	SMD 0201-2512	
MCS0402 MCT0603 MCU0805		Precision Chip Resistors, Thin Film	39 - 500 Kohms Tol. = 0.1% - 0.5%	SMD 0402, 0603	

### Current Sense Resistors

Product Name	Status	Description	Features	Package	Q-Level
CRCW....-EL e3		Thick Film Low-Ohmic Chip Resistor 0.010 to 0.976 Ohms Tol. = 1% or 5%	0603 - 2512	SMD 0603-2512	
WSL		Power Metal Strip Resistor 0.001 to 0.500 Ohms Tol. = 0.5% or 1.0%	0603 - 2816	SMD 0603-2816	

### Fuses

Product Name	Status	Description	Features	Package	Q-Level
MFU		Thin Film Flat Chip Fuses	500 mA to 6.3 A	SMD 0402-1206	

### Power MOSFETs

Product Name	Status	Description	Features	Package	Q-Level
Si1067X	NEW	P-Channel 1.8-V (G-S) Rated MOSFET VDS = -20 V, ID = -1.6 A rDS(on) = 150 milliohms	VDS = -20 V, ID = -1.6 A rDS(on) = 150 milliohms	SMD MICRO FOOT 1.6 x 1.6	
Si1304BDL	NEW	N-Channel 1.2-V (G-S) Rated MOSFET VDS = 30 V, ID = 0.9 A rDS(on) = 270 milliohms	VDS = 30 V, ID = 0.9 A rDS(on) = 270 milliohms	SMD PowerPAK SC-75	
Si8401DB		P-Channel 2.5-V (G-S) Rated MOSFET VDS = -20 V, ID = -4.9 A rDS(on) = 65 milliohms	VDS = -20 V, ID = -4.9 A rDS(on) = 65 milliohms	SMD MICRO FOOT 1.5 x 1	
Si8407DB		P-Channel 1.8-V (G-S) Rated MOSFET VDS = -20 V, ID = 8.2 A rDS(on) = 27 milliohms	VDS = -20 V, ID = 8.2 A rDS(on) = 27 milliohms	SMD MICRO FOOT 1.6 x 1.6	
Si8499DB		P-Channel 20V (D-S) MOSFET	VDS = -20 V, ID = -16 A rDS(on) = 0.032 ohms	SMD MICRO FOOT 1.2 x 1	
SiA408DJ	NEW	N-Channel 2.5-V (G-S) Rated MOSFET VDS = 30 V, ID = 4.5 A rDS(on) = 36 milliohms	VDS = 30 V, ID = 4.5 A rDS(on) = 36 milliohms	SMD PowerPAK SC-75	
SiA429DJT	NEW	P-Channel 20V (D-S) MOSFET	VDS = -20 V, ID = -12 A rDS(on) = 0.0205 ohms	SMD Thin PPAK SC-70-6L	
SiA431DJ	NEW	P-Channel 20-V (D-S) MOSFET	VDS = -20 V, ID = -12 A rDS(on) = 0.025 ohms	SMD PPAK SC70-6L	
SiB433EDK	NEW	P-Channel 20-V (D-S) MOSFET	VDS = -20 V, ID = -9 A rDS(on) = 0.058 ohms	SMD PowerPAK SC-75-6L	
SiB455EDK	NEW	P-Channel 12-V (D-S) MOSFET	VDS = -20 V, ID = 9 A rDS(on) = 0.027 ohms	SMD PowerPAK SC-75-6L	

## Schottky Diodes

Product Name	Status	Description	Features	Package	Q-Level
BAS40-02V		Small-Signal Schottky Diodes	VR = 40 V	SMD SOD523	
BAS520-02V		Small-Signal Schottky Diodes	VR = 30 V	SMD SOD523	
BAS581-02V		Small-Signal Schottky Diodes	VR = 40 V	SMD SOD523	
BAS70-02V		Small-Signal Schottky Diodes	VR = 70 V	SMD SOD523	
BAT54-02V		Small-Signal Schottky Diodes	VR = 30 V	SMD SOD523	
MSS1P3L	NEW	30-V, 1A SMD Schottky Barrier Rectifiers	VR = 30 V, IF = 1 A	SMD microSMP	
MSS1P4L	NEW	40-V, 1A SMD Schottky Barrier Rectifiers	VR = 40 V, IF = 1 A	SMD microSMP	

## Thermistors

Product Name	Status	Description	Features	Package	Q-Level
NTHS		NTC Thermistor, Surface-Mount Chip	Curve 2, 6.8 K - 12 K Tol. = 3%, 5%, 10% Alt. Curves Available	SMD 0402, 0603	

## Portable Media Player : POWER MANAGEMENT, Linear Regulators

### LDOs

Product Name	Status	Description	Features	Package	Q-Level
SiP21101		150-mA Ultra-Low-Noise LDO Regulator with Discharge Option	Low Dropout-130mV@150mA Ultra-Low Noise-30 $\mu$ V 1.5% Guaranteed V Output	SMD SC70-5	
SiP21103	NEW	250-mA Ultra-Low-Noise LDO Regulator with Discharge Option	Low Dropout-250mV@250mA Ultra-Low Noise-30 $\mu$ V RMS 2% Guaranteed V Output	SMD MLP22-5 PowerPAK	
SiP21110	NEW	250-mA Adjustable Low Dropout Regulator Low Dropout - 225 mV @ 250 mA	1% Output Accuracy @25°C TSOT23-5L	SMD TSOT23-5L	
SiP2210	NEW	Dual Output Low Dropout Regulator MIC2210 Pin-for-Pin Replacement	2.25 - 5.5V Input Voltage Two Outputs-150 & 300 mA Low Grd Current of 48 $\mu$ A	SMD MLP33-10 PPAK MLP44-16 PPAK	
SiP2211	NEW	Dual Output Low Dropout Regulator MIC2211 Pin-for-Pin Replacement	2.25 - 5.5V Input Voltage Two Outputs-150 & 300 mA Low Dropout V 65mV@100mA	SMD MLP33-10 PPAK MLP44-16 PPAK	
SiP2213	NEW	Dual Output Low Dropout Regulator MIC2213 Pin-for-Pin Replacement	2.25 - 5.5V Input Voltage Two Outputs-150 & 300 mA Low Ground Current	SMD MLP33-10 PPAK MLP44-16 PPAK	
SiP2214	NEW	Dual Output Low Dropout Regulator MIC2214 Pin-for-Pin Replacement	2.25 - 5.5V Input Voltage Two Outputs-150 & 300 mA Low Ground Current	SMD MLP33-10 PPAK MLP44-16 PPAK	

## Portable Media Player : POWER MANAGEMENT, Power Management IC (PMIC)

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### PMICs

Product Name	Status	Description	Features	Package	Q-Level
Si9139	NEW	Multi-Output, Individual On/Off Control, Power Supply Controller 300-kHz Low-Noise Fixed Freq. Operation	Five-Output dc-to-dc Ctr. 4.5-V to 30-V Input Voltage Range	SMD SSOP-28	

## Portable Media Player : POWER MANAGEMENT, Switchmode Regulators

### Chip Resistors

Product Name	Status	Description	Features	Package	Q-Level
CRCW.... e3		Thick Film Rectangular Chip Resistors Lead (Pb)-Free	1 $\Omega$ to 1 M $\Omega$	SMD 0201-2512	

### Controllers/Converters

Product Name	Status	Description	Features	Package	Q-Level
SiP12501	NEW	Boost Converter for NiMH Battery for White LED Applications PWM Ctrl. W. 600kHz Fixed Switching Freq	0.65 to 3.3 V Input Volt. Low Startup Volt: 0.65 V	SMD MLP33-6 PPAK	
SiP12510	NEW	1.25-MHz Boost Converter White LED Driver with Internal Power Switch	1.25-MHz Switching Freq. Current Mode Control Built-in Soft Start Ctrl.	SMD THIN SOT23-6	

### Current Sense Resistors

Product Name	Status	Description	Features	Package	Q-Level
CRCW....-EL e3		Thick Film Low-Ohmic Chip Resistor	.001 to .976 Ohms Tol. = 1% or 5%	SMD 0603-2512	
WSL		Power Metal Strip Resistor	.001 to .500 Ohms Tol. = 0.5% or 1.0%	SMD 0603-2816	

### Inductors

Product Name	Status	Description	Features	Package	Q-Level
IHLP-1616AB-01	NEW	Low-Profile, High-Current Inductor	0.047 to 1.0 $\mu$ H 1.2-mm profile	SMD 4.0x4.0x1.2mm	
IHLP-1616AB-11	NEW	Low-Profile, High-Current Inductor	0.047 to 2.2 $\mu$ H 1.2-mm profile	SMD 4.0x4.0x1.2mm	
IHLP-1616BZ-01	NEW	Low-Profile, High-Current Inductor	0.10 to 2.2 $\mu$ H 2.0-mm profile	SMD 4.0x4.0x2.0mm	
IHLP-1616BZ-11	NEW	Low-Profile, High-Current Inductor	0.10 to 4.7 $\mu$ H 2.0-mm profile	SMD 4.0x4.0x2.0mm	

### Multilayer Ceramic Capacitors

Product Name	Status	Description	Features	Package	Q-Level
X7R Dielectric		MLCC, Ideal for Decoupling and Filtering	100 pF to 1 $\mu$ F	SMD 0603-1812	

### Power MOSFETs

Product Name	Status	Description	Features	Package	Q-Level
Si1067X	NEW	P-Channel 1.8-V (G-S) Rated MOSFET	VDS = -20 V, ID = -1.6 A rDS(on) = 150 milliohms	SMD SC-89-6	
Si1304BDL	NEW	N-Channel 1.2-V (G-S) Rated MOSFET	VDS = 30 V, ID = 0.9 A rDS(on) = 270 milliohms	SMD SC-70-3	
Si5858DU		N-Channel 1.8-V (G-S) Rated MOSFET with Trench Schottky Diode	VDS = 20V, ID = 6A; If=1A rDS(on) = 39 milliohms VKA = 20V, Vf = 0.375V @1A	SMD PowerPAK ChipFET dual	
Si8401DB		P-Channel 2.5-V (G-S) Rated MOSFET	VDS = -20 V, ID = -4.9 A rDS(on) = 65 milliohms	SMD MICRO FOOT 1.6 x 1.6	
Si8407DB		P-Channel 1.8-V (G-S) Rated MOSFET	VDS = -20 V, ID = 8.2 A rDS(on) = 27 milliohms	SMD MICRO FOOT 2.4 x 1.6	
Si8451DB		P-Channel 1.5-V (G-S) Rated MOSFET	VDS = -20 V, ID = -10.8 A rDS(on) = 80 milliohms	SMD MICRO FOOT 1.5 x 1	

Product Name	Status	Description	Features	Package	Q-Level
SiA408DJ	NEW	N-Channel 2.5-V (G-S) Rated MOSFET	VDS = 30 V, ID = 4.5 A rDS(on) = 36 milliohms	SMD PowerPAK SC-70-6L	
SiA411DJ	NEW	P-Channel 1.8-V (G-S) Rated MOSFET	VDS = -20 V, ID = -12 A rDS(on) = 30 milliohms	SMD PowerPAK SC-70-6L	
SiA443DJ	NEW	P-Channel 1.8-V (G-S) Rated MOSFET	VDS = -20 V, ID = -12 A rDS(on) = 45 milliohms	SMD PowerPAK SC-70-6L	
SiA810DJ	NEW	N-Channel 1.8-V (G-S) Rated MOSFET with Trench Schottky Diode	VDS = 20V, ID=4.5A; If=2A rDS(on) = 53 milliohms VKA = 20V, Vf = 0.45V @1A	SMD PowerPAK SC-70-6L dual	
SiB411DK		P-Channel 1.8-V (G-S) Rated MOSFET	VDS = -20 V, ID = 9 A rDS(on) = 66 milliohms	SMD PowerPAK SC-70-6L	
SiB431EDK	NEW	P-Channel 1.8-V (G-S) Rated MOSFET	VDS = -20 V, ID = -9 A rDS(on) = 80 milliohms	SMD PowerPAK SC-70-6L	

### Schottky Diodes

Product Name	Status	Description	Features	Package	Q-Level
FCSP130LTR	NEW	FlipKY®, 30-V, 1.0-A Chip Scale Package Schottky Barrier Rectifier	VR = 30 V IF = 1.0 A	SMD Chip Scale	
FCSP140LTR	NEW	FlipKY®, 40-V, 1.0-A Chip Scale Package Schottky Barrier Rectifier	VR = 40 V IF = 1.0 A	SMD Chip Scale	
FCSP230LTR	NEW	FlipKY®, 30-V, 1.5-A Chip Scale Package Schottky Barrier Rectifier	VR = 30 V IF = 1.5 A	SMD Chip Scale	
MSS1P2L	NEW	20-V, 1A SMD Schottky Barrier Rectifiers	VR = 20 V IF = 1.0 A	SMD microSMP	
MSS1P3L	NEW	30-V, 1A SMD Schottky Barrier Rectifiers	VR = 30 V IF = 1.0 A	SMD microSMP	
MSS1P4L	NEW	40-V, 1A SMD Schottky Barrier Rectifiers VR = 40 V, IF = 1 A	VR = 40 V IF = 1.0 A	SMD microSMP	
MSS1P4L	NEW	40-V, 1A SMD Schottky Barrier Rectifiers VR = 40 V, IF = 1 A	VR = 40 V IF = 1.0 A	SMD microSMP	
SS12		20-V, 1A SMD Schottky Barrier Rectifiers	VR = 20 V IF = 1.0 A	SMD SMA	
SS13		30-V, 1A SMD Schottky Barrier Rectifiers	VR = 30 V IF = 1.0 A	SMD SMA	
SS1P3L	NEW	30-V, 1A SMD Schottky Barrier Rectifiers	VR = 30 V IF = 1.0 A	SMD SMP	
SS2P2L	NEW	20-V, 2A SMD Schottky Barrier Rectifiers	VR = 20 V IF = 2.0 A	SMD SMP	

### Switching Diodes

Product Name	Status	Description	Features	Package	Q-Level
1N4148WS		Small-Signal, Fast-Switching Diode	VR = 75 V	SMD SOD323	
BAS16WS-V		Small-Signal, Fast-Switching Diode	VR = 75 V	SMD SOD323	
BAV19WS		Small-Signal, Fast-Switching Diode	VR = 100 V VR = 150 V VR = 200 V	SMD SOD323	

### Tantalum Capacitors

Product Name	Status	Description	Features	Package	Q-Level
298D	NEW	Solid Tantalum Chip Capacitors MICROTAN® Leadframeless Molded	0.68 $\mu$ F to 220 $\mu$ F	SMD 0402-0805	

## Zener Diodes

Product Name	Status	Description	Features	Package	Q-Level
BZX384 Series		Small-Signal Zener Diodes	VZ = 2.4 to 75 V	SMD SOD323	
BZX584C-02V	NEW	Small-Signal Zener Diodes	VZ = 2.4 to 51 V	SMD SOD523	

## Portable Media Player : SENSORS, Ambient Light

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### Ambient Light Sensors

Product Name	Status	Description	Features	Package	Q-Level
TEMT6200FX01		Ambient Light Sensor in 0805 Package Adapted to human eye responsivity	Wide angle High sensitivity	SMD SMD 0805	

## Portable Media Player : USER INTERFACE, Backlight

### Boost Controllers

Product Name	Status	Description	Features	Package	Q-Level
SiP12501		Boost Converter for Single Double AA Cell or NiMH Battery for White LED Applications	0.65 - 3.3V Input Voltage Low Startup Voltage: .65V 600-kHz Fixed	SMD MLP33-6	
SiP12511	NEW	1.25-MHz Boost Converter White LED Driver w Internal Power Switch	2.5-V to 6-V Input 1.25 MHz Switching Freq. .55-A Switch Curr. Lim.	SMD TSOT23-6	

### Chip Resistors

Product Name	Status	Description	Features	Package	Q-Level
CRCW.... e3		Thick Film Rectangular Chip Resistors Lead (Pb)-Free	1 $\Omega$ to 1 M $\Omega$	SMD 0201-2512	

### Inductors

Product Name	Status	Description	Features	Package	Q-Level
IHLP-1616AB-01	NEW	Low-Profile, High-Current Inductor	0.047 to 1.0 $\mu$ H 1.2-mm profile	SMD 4.0x4.0x1.2mm	
IHLP-1616AB-11	NEW	Low-Profile, High-Current Inductor	0.047 to 2.2 $\mu$ H 1.2-mm profile	SMD 4.0x4.0x1.2mm	
IHLP-1616BZ-01	NEW	Low-Profile, High-Current Inductor	0.10 to 2.2 $\mu$ H 2.0-mm profile	SMD 4.0x4.0x2.0mm	
IHLP-1616BZ-11	NEW	Low-Profile, High-Current Inductor	0.10 tp 4.7 $\mu$ H 2.0-mm profile	SMD 4.0x4.0x2.0mm	

### Multilayer Ceramic Capacitors

Product Name	Status	Description	Features	Package	Q-Level
X7R Dielectric		MLCC, Ideal for Decoupling and Filtering	100pF to 1 $\mu$ F	SMD 0402-3640	

### Power MOSFETs

Product Name	Status	Description	Features	Package	Q-Level
Si1067X	NEW	VDS = -20 V, ID = -1.6 A rDS(on) = 150 milliohms	VDS = -20 V, ID = -1.6 A rDS(on) = 150 milliohms	SMD SC-89-6	
Si1304BDL	NEW	VDS = 30 V, ID = 0.9 A rDS(on) = 270 milliohms	VDS = 30 V, ID = 0.9 A rDS(on) = 270 milliohms	SMD SC-70-3	
Si8401DB		VDS = -20 V, ID = -4.9 A rDS(on) = 65 milliohms	VDS = -20 V, ID = -4.9 A rDS(on) = 65 milliohms	SMD MICRO FOOT 1.6 x 1.6	
Si8407DB		VDS = -20 V, ID = 8.2 A rDS(on) = 27 milliohms	VDS = -20 V, ID = 8.2 A rDS(on) = 27 milliohms	SMD MICRO FOOT 2.4 x 1.6	
Si8499DB		P-Channel 20V (D-S) Mosfet	VDS = -20 V, ID = -16 A rDS(on) = 0.032 ohm	SMD MICRO FOOT 1.5 x 1	
SiA408DJ	NEW	VDS = 30 V, ID = 4.5 A rDS(on) = 36 milliohms	VDS = 30 V, ID = 4.5 A rDS(on) = 36 milliohms	SMD PowerPAK SC-75-6L	
SiA429DJT	NEW	P-Channel 20V (D-S) Mosfet	VDS = -20 V, ID = -12 A rDS(on) = 0.0205 ohms	SMD PowerPAK SC-70-6L	
SiA431DJ	NEW	P-Channel 20-V (D-S) Mosfet	VDS = -20 V, ID = -12 A rDS(on) = 0.025 ohms	SMD PowerPAK SC-70-6L	
SiB433EDK	NEW	P-Channel 20-V (D-S) Mosfet	VDS = -20 V, ID = -9 A rDS(on) = 0.058 ohms	SMD PowerPAK SC-75-6L	

Product Name	Status	Description	Features	Package	Q-Level
SiB455EDK	NEW	P-Channel 12-V (D-S) Mosfet	VDS = -12 V, ID = 9 A rDS(on) = 0.027 ohms	SMD PowerPAK SC-75-6L	

### Schottky Diodes

Product Name	Status	Description	Features	Package	Q-Level
BAS40-02V		Small-Signal Schottky Diodes	VR = 40 V	SMD SOD523	
BAS520-02V		Small-Signal Schottky Diodes	VR = 30 V	SMD SOD523	
BAS581-02V		Small-Signal Schottky Diodes	VR = 40 V	SMD SOD523	
BAS70-02V		Small-Signal Schottky Diodes	VR = 70 V	SMD SOD523	
BAT54-02V		Small-Signal Schottky Diodes	VR = 30 V	SMD SOD523	
MSS1P3L	NEW	30-V, 1A SMD Schottky Barrier Rectifiers	VR = 30 V, IF = 1 A	SMD microSMP	

## Portable Media Player : USER INTERFACE, Buttons

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### Chip Resistors

Product Name	Status	Description	Features	Package	Q-Level
CRCW.... e3		Thick Film Rectangular Chip Resistors Lead (Pb)-Free	1 $\Omega$ to 1 M $\Omega$	SMD 0201-2512	

### ESD Protection

Product Name	Status	Description	Features	Package	Q-Level
VBUS051BD-HD1		ESD Protection Diode in LLP1006-2L	CD = 1.8 pF 0.4-mm profile	SMD LLP1006-2L	
VESD05A1B-HD1		ESD Protection Diode in LLP1006-2L	CD = 12 pF 0.4-mm profile	SMD LLP1006-2L	

### Multilayer Ceramic Capacitors

Product Name	Status	Description	Features	Package	Q-Level
X7R Dielectric		MLCC, Ideal for Decoupling and Filtering	100 pF to 1 $\mu$ F	SMD 0402-3640	

## Portable Media Player : USER INTERFACE, LEDs

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### White LEDs

Product Name	Status	Description	Features	Package	Q-Level
VLMW3200	NEW	White Power SMD LED	VF = 3.7V @ IF = 30 mA IV >560 mcd	SMD	
VLMW3201	NEW	White Power SMD LED	VF = 3.7V @ IF = 30 mA IV >710 mcd	SMD	

## Portable Media Player : USER INTERFACE, Track Wheel

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### ESD Protection

Product Name	Status	Description	Features	Package	Q-Level
GMF05LC-HSF		5-Line ESD Protection Diode Array	CD = 50 pF 0.6-mm profile	SMD LLP75-6L	
VESD09A4A-HS4	NEW	4-Line (Quad) ESD Protection Diode Array	CD = 10 pF Low Leakage < 0.1 $\mu$ A 0.4-mm profile	SMD LLP1010-6L	
VESD09A4A-HSF		4-Line ESD Protection Diode Array	CD = 10 pF 0.6-mm profile	SMD LLP75-6L	

## Portable Media Player : USER INTERFACE, Video Bus

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### EMI Filters

Product Name	Status	Description	Features	Package	Q-Level
VEMI45AC-HNH		4-Channel EMI Filter with ESD Protection	R = 100 Ohms C = 20pF	SMD LLP1713-9L	
VEMI65AC-HCI		6-Channel EMI Filter with ESD Protection	R = 100 Ohms C = 20pF	SMD LLP2513-13L	
VEMI85AC-HGK		8-Channel EMI Filter with ESD Protection	R = 100 Ohms C = 20pF	SMD LLP3313-17L	

