

## Common Abbreviations

Inter-Integrated Circuit (communication bus)

18650 Most common Li-ion cylindrical cell size measuring 18mm dia. by 65mm ht.

A Ampere (a unit of measure for electrical current)

Ah Ampere-hour (capacity or energy in a cell)

BMS Battery Management System
C Celsius, Centigrade (temperature)

CCV Closed Circuit Voltage

**CCCV** Constant current constant voltage (a charging sequence/method)

CID Circuit Interrupt Device
C of C Certificate of Compliance

**C-rate** Discharge rate of a battery as a function of its capacity in Amp-hrs

**DoD** Depth of Discharge

**DOT** Department of Transportation (US)

dT/dt Delta Temperature over Delta Time (rate of change of temperature)

ELC Equivalent lithium content
EOL End of Life (capacity)
F Fahrenheit (temperature)

h Hour (time)I Current (electrical)

IATA International Air Transport Association
IEC International Electrochemical Commission

IS Intrinsic safety (used on batteries)

**LCD** Liquid crystal display

LCO Lithium Cobalt Oxide (a common cathode material in Li-ion cells)

**LED** Light Emitting Diode

**LFP** Lithium-Iron-Phosphate (a common cathode material in Li-ion cells)

LiCoO<sub>2</sub> Lithium-cobalt-oxide

LifePO Lithium-iron-phosphate-oxide
Li-ion Lithium-ion battery (short form)

**LiMn<sub>2</sub>O<sub>4</sub>** Lithium-manganese-oxide (a common cathode material)

**LiNiCoAlO**<sub>2</sub> Lithium-nickel-cobalt-aluminum-oxide (a common cathode material in Li Ion cells) **LiNiMnCoO**<sub>2</sub> Lithium-nickel-manganese-cobalt-oxide (a common cathode material in Li Ion cells)

Lithium-titanate (a specialty high power anode material for Li-ion cells)

LTO Lithium-ion battery with Lithium-manganese oxide cathode
Lithium-titanate (a high power anode material for Li-ion cells)

mAh Milliampere-hours

NCA Lithium-ion battery with a nickel-cobalt-aluminum-oxide cathode

NiCdNickel-cadmium (battery)NiFeNickel-iron (battery)NiHNickel-hydrogen (battery)NiMHNickel-metal-hydride (battery)

NiZn Nickel-zinc (battery)

NMC Lithium-ion battery with nickel, manganese, cobalt-oxide cathode

NTC Negative Temperature Coefficient

OCP Over-current Protection

OCV Open Circuit Voltage

**OEM** Original Equipment Manufacturer

**OVP** Over-voltage Protection

PRBA Portable Rechargeable Battery Association

PTC Positive Temperature Coefficient (a battery protection device)

QA Quality Assurance

Qi Standard on inductive charging by Wireless Power Consortium (WPC)

R Resistor (electrical)

**RF** Radio Frequency (communications)

SBS Smart Battery System
SLA Sealed Lead Acid (battery)

SMBus System Management Bus (smart battery)

SoC State-of-Charge SOH State-of-Health

**UL** Underwriters Laboratories (product safety testing and certification)

UVP Under-Voltage ProtectionV Voltage (electrical)

VCO Voltage Cutoff (safety feature)

VL Voltage Limiting (as in charging a battery)
VRLA Valve Regulated Lead Acid (battery)

W Watt (electrical power; voltage times current = watts)Wh Watt-hour (electrical energy; watts times h = Wh)

Wh/kg Watt-hour per kilogram (gravimetric energy density, aka specific energy)

Wh/I Watt-hour per liter (volumetric energy density)

Wi-Fi Wireless Fidelity (network)
WPC Wireless Power Consortium

**Z** Impedance (frequency dependent resistance)

Zigbee Wireless network targeting RF applications that require a secure low data rate and long battery life