

* Texas Instruments Data Flash File				
* File created Tue Dec 11 10:05:15 2018				
*				
* Device Number 4500				
* Firmware Version 1.06				
* Build Number 36				
* Order Number 0				
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* bqz Device Number 4500				
* bqz Firmware Version 1.06				
* bqz Build Number 36				
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* Field Order: Class name	Subclass name	Parameter name	Parameter Value	Display Units
Calibration	Voltage	Cell Gain	12143	-
Calibration	Voltage	Pack Gain	49648	-
Calibration	Voltage	BAT Gain	49111	-
Calibration	Current	CC Gain	1.969	mOhm
Calibration	Current	Capacity Gain	1.969	mOhm
Calibration	Current Offset	CC Offset	0	-
Calibration	Current Offset	Coulomb Counter Offset Samples	64	-
Calibration	Current Offset	Board Offset	0	-
Calibration	Current Offset	CC Auto Config	7	hex
Calibration	Current Offset	CC Auto Offset	-82	-
Calibration	Temperature	Internal Temp Offset	0	°C
Calibration	Temperature	External1 Temp Offset	0	°C
Calibration	Temperature	External2 Temp Offset	0	°C
Calibration	Temperature	External3 Temp Offset	0	°C
Calibration	Temperature	External4 Temp Offset	0	°C
Calibration	Internal Temp Model	Int Gain	-12143	-
Calibration	Internal Temp Model	Int base offset	6232	-
Calibration	Internal Temp Model	Int Minimum AD	0	-
Calibration	Internal Temp Model	Int Maximum Temp	6232	0.1degK
Calibration	Cell Temperature Model	Coeff a1	-11130	-
Calibration	Cell Temperature Model	Coeff a2	19142	-
Calibration	Cell Temperature Model	Coeff a3	-19262	-
Calibration	Cell Temperature Model	Coeff a4	28203	-
Calibration	Cell Temperature Model	Coeff a5	892	-
Calibration	Cell Temperature Model	Coeff b1	328	-

Calibration	Cell Temperature Model	Coeff b2	-605	-
Calibration	Cell Temperature Model	Coeff b3	-2443	-
Calibration	Cell Temperature Model	Coeff b4	4696	-
Calibration	Cell Temperature Model	Rc0	11703	-
Calibration	Cell Temperature Model	Adc0	11703	-
Calibration	Cell Temperature Model	Rpad	0	-
Calibration	Cell Temperature Model	Rint	0	-
Calibration	Fet Temperature Model	Coeff a1	-11130	-
Calibration	Fet Temperature Model	Coeff a2	19142	-
Calibration	Fet Temperature Model	Coeff a3	-19262	-
Calibration	Fet Temperature Model	Coeff a4	28203	-
Calibration	Fet Temperature Model	Coeff a5	892	-
Calibration	Fet Temperature Model	Coeff b1	328	-
Calibration	Fet Temperature Model	Coeff b2	-605	-
Calibration	Fet Temperature Model	Coeff b3	-2443	-
Calibration	Fet Temperature Model	Coeff b4	4696	-
Calibration	Fet Temperature Model	Rc0	11703	-
Calibration	Fet Temperature Model	Adc0	11703	-
Calibration	Fet Temperature Model	Rpad	0	-
Calibration	Fet Temperature Model	Rint	0	-
Calibration	Current Deadband	Deadband	3	mA
Calibration	Current Deadband	Coulomb Counter Deadband	9	116nV
Settings	Configuration	Charging Configuration	0	hex
Settings	Configuration	FET Options	0d	hex
Settings	Configuration	Sbs Gauging Configuration	5	hex
Settings	Configuration	Sbs Configuration	21	hex
Settings	Configuration	Power Config	0	hex
Settings	Configuration	IO Config	0	hex
Settings	Configuration	LED Configuration	10	hex
Settings	Configuration	Temperature Enable	3	hex
Settings	Configuration	Temperature Mode	1	hex
Settings	Configuration	DA Configuration	13	hex
Settings	Configuration	SOC Flag Config A	0c8f	hex
Settings	Configuration	SOC Flag Config B	87	hex
Settings	Configuration	Balancing Configuration	3	hex
Settings	Configuration	IT Gauging Configuration	54de	hex
Settings	Fuse	PF Fuse A	5f	hex
Settings	Fuse	PF Fuse B	0	hex
Settings	Fuse	PF Fuse C	80	hex
Settings	Fuse	PF Fuse D	0	hex
Settings	Fuse	Min Blow Fuse Voltage	14000	mV
Settings	Fuse	Fuse Blow Timeout	30	s
Settings	BTP	Init Discharge Set	150	mAh
Settings	BTP	Init Charge Set	175	mAh
Settings	SMBus	Address	16	-

Settings	SMBus	Address Check	ea	-
Settings	Protection	Protection Configuration	3	hex
Settings	Protection	Enabled Protections A	ff	hex
Settings	Protection	Enabled Protections B	3f	hex
Settings	Protection	Enabled Protections C	41	hex
Settings	Protection	Enabled Protections D	0c	hex
Settings	Permanent Failure	Enabled PF A	5f	hex
Settings	Permanent Failure	Enabled PF B	0	hex
Settings	Permanent Failure	Enabled PF C	80	hex
Settings	Permanent Failure	Enabled PF D	0	hex
Settings	AFE	AFE Protection Control	70	hex
Settings	AFE	ZVCHG Exit Threshold	1800	mV
Settings	Manufacturing	Mfg Status init	10	hex
Advanced Charge Algorithm	Temperature Ranges	T1 Temp	0	°C
Advanced Charge Algorithm	Temperature Ranges	T2 Temp	10	°C
Advanced Charge Algorithm	Temperature Ranges	T5 Temp	20	°C
Advanced Charge Algorithm	Temperature Ranges	T6 Temp	30	°C
Advanced Charge Algorithm	Temperature Ranges	T3 Temp	45	°C
Advanced Charge Algorithm	Temperature Ranges	T4 Temp	50	°C
Advanced Charge Algorithm	Temperature Ranges	Hysteresis Temp	1	°C
Advanced Charge Algorithm	Low Temp Charging	Voltage	4000	mV
Advanced Charge Algorithm	Low Temp Charging	Current Low	500	mA
Advanced Charge Algorithm	Low Temp Charging	Current Med	500	mA
Advanced Charge Algorithm	Low Temp Charging	Current High	500	mA
Advanced Charge Algorithm	Standard Temp Charging	Voltage	4000	mV
Advanced Charge Algorithm	Standard Temp Charging	Current Low	1500	mA
Advanced Charge Algorithm	Standard Temp Charging	Current Med	1500	mA
Advanced Charge Algorithm	Standard Temp Charging	Current High	1500	mA
Advanced Charge Algorithm	High Temp Charging	Voltage	4000	mV
Advanced Charge Algorithm	High Temp Charging	Current Low	750	mA
Advanced Charge Algorithm	High Temp Charging	Current Med	750	mA
Advanced Charge Algorithm	High Temp Charging	Current High	750	mA
Advanced Charge Algorithm	Rec Temp Charging	Voltage	4000	mV
Advanced Charge Algorithm	Rec Temp Charging	Current Low	1500	mA
Advanced Charge Algorithm	Rec Temp Charging	Current Med	1500	mA
Advanced Charge Algorithm	Rec Temp Charging	Current High	1500	mA
Advanced Charge Algorithm	Pre-Charging	Current	75	mA
Advanced Charge Algorithm	Maintenance Charging	Current	0	mA
Advanced Charge Algorithm	Voltage Range	Precharge Start Voltage	1800	mV
Advanced Charge Algorithm	Voltage Range	Charging Voltage Low	3000	mV
Advanced Charge Algorithm	Voltage Range	Charging Voltage Med	3600	mV
Advanced Charge Algorithm	Voltage Range	Charging Voltage High	4000	mV
Advanced Charge Algorithm	Voltage Range	Charging Voltage Hysteresis	0	mV
Advanced Charge Algorithm	SoC Range	Charging SoC Med	50	%
Advanced Charge Algorithm	SoC Range	Charging SoC High	75	%

Advanced Charge Algorithm	SoC Range	Charging SoC Hysteresis	1	%
Advanced Charge Algorithm	Termination Config	Charge Term Taper Current	100	mA
Advanced Charge Algorithm	Termination Config	Charge Term Voltage	75	mV
Advanced Charge Algorithm	Charging Rate of Change	Current Rate	1	steps
Advanced Charge Algorithm	Charging Rate of Change	Voltage Rate	1	steps
Advanced Charge Algorithm	Charge Loss Compensation	CCC Current Threshold	3520	mA
Advanced Charge Algorithm	Charge Loss Compensation	CCC Voltage Threshold	4200	mV
Advanced Charge Algorithm	Cell Balancing Config	Bal Time/mAh Cell 1	200	s/mAh
Advanced Charge Algorithm	Cell Balancing Config	Bal Time/mAh Cell 2-4	266	s/mAh
Advanced Charge Algorithm	Cell Balancing Config	Min Start Balance Delta	3	mV
Advanced Charge Algorithm	Cell Balancing Config	Relax Balance Interval	18000	s
Advanced Charge Algorithm	Cell Balancing Config	Min Rsoc for Balancing	85	%
Power	Power	Valid Update Voltage	3500	mV
Power	Shutdown	Shutdown Voltage	2550	mV
Power	Shutdown	Shutdown Time	10	s
Power	Shutdown	PF Shutdown Voltage	2400	mV
Power	Shutdown	PF Shutdown Time	10	s
Power	Shutdown	PS Shutdown Voltage	2400	mV
Power	Shutdown	PS NoLoadResCap Threshold	0	mAh
Power	Shutdown	Charger Present Threshold	3000	mV
Power	Sleep	Sleep Current	5	mA
Power	Sleep	Bus Timeout	5	s
Power	Sleep	Voltage Time	20	s
Power	Sleep	Current Time	20	s
Power	Sleep	Wake Comparator	0	hex
Power	Ship	FET Off Time	10	s
Power	Ship	Delay	20	s
Power	Ship	Auto Ship Time	1440	min
Power	Power Off	Timeout	30	min
Power	Manual FET Control	MFC Delay	60	s
LED Support	LED Config	LED Flash Period	512	488us
LED Support	LED Config	LED Blink Period	1024	488us
LED Support	LED Config	LED Delay	100	488us
LED Support	LED Config	LED Hold Time	4	s
LED Support	LED Config	CHG Flash Alarm	10	%
LED Support	LED Config	CHG Thresh 1	0	%
LED Support	LED Config	CHG Thresh 2	20	%
LED Support	LED Config	CHG Thresh 3	40	%
LED Support	LED Config	CHG Thresh 4	60	%
LED Support	LED Config	CHG Thresh 5	80	%
LED Support	LED Config	DSG Flash Alarm	10	%
LED Support	LED Config	DSG Thresh 1	0	%

LED Support	LED Config	DSG Thresh 2	20	%
LED Support	LED Config	DSG Thresh 3	40	%
LED Support	LED Config	DSG Thresh 4	60	%
LED Support	LED Config	DSG Thresh 5	80	%
System Data	Manufacturer Data	Manufacturer Info A Length	32	-
System Data	Manufacturer Data	Manufacturer Info Block A01	2	Hex
System Data	Manufacturer Data	Manufacturer Info Block A02	1	Hex
System Data	Manufacturer Data	Manufacturer Info Block A03	1	Hex
System Data	Manufacturer Data	Manufacturer Info Block A04	49	Hex
System Data	Manufacturer Data	Manufacturer Info Block A05	4e	Hex
System Data	Manufacturer Data	Manufacturer Info Block A06	52	Hex
System Data	Manufacturer Data	Manufacturer Info Block A07	31	Hex
System Data	Manufacturer Data	Manufacturer Info Block A08	38	Hex
System Data	Manufacturer Data	Manufacturer Info Block A09	36	Hex
System Data	Manufacturer Data	Manufacturer Info Block A10	35	Hex
System Data	Manufacturer Data	Manufacturer Info Block A11	30	Hex
System Data	Manufacturer Data	Manufacturer Info Block A12	41	Hex
System Data	Manufacturer Data	Manufacturer Info Block A13	0	Hex
System Data	Manufacturer Data	Manufacturer Info Block A14	4d	Hex
System Data	Manufacturer Data	Manufacturer Info Block A15	4f	Hex
System Data	Manufacturer Data	Manufacturer Info Block A16	4c	Hex
System Data	Manufacturer Data	Manufacturer Info Block A17	49	Hex
System Data	Manufacturer Data	Manufacturer Info Block A18	0	Hex
System Data	Manufacturer Data	Manufacturer Info Block A19	0	Hex
System Data	Manufacturer Data	Manufacturer Info Block A20	0	Hex
System Data	Manufacturer Data	Manufacturer Info Block A21	0	Hex
System Data	Manufacturer Data	Manufacturer Info Block A22	0	Hex

System Data	Manufacturer Data	Manufacturer Info Block A23	0	Hex
System Data	Manufacturer Data	Manufacturer Info Block A24	0	Hex
System Data	Manufacturer Data	Manufacturer Info Block A25	0	Hex
System Data	Manufacturer Data	Manufacturer Info Block A26	0	Hex
System Data	Manufacturer Data	Manufacturer Info Block A27	0	Hex
System Data	Manufacturer Data	Manufacturer Info Block A28	0	Hex
System Data	Manufacturer Data	Manufacturer Info Block A29	0	Hex
System Data	Manufacturer Data	Manufacturer Info Block A30	0	Hex
System Data	Manufacturer Data	Manufacturer Info Block A31	0	Hex
System Data	Manufacturer Data	Manufacturer Info Block A32	0	Hex
System Data	Manufacturer Info B	Manufacturer Info Block B01	1	Hex
System Data	Manufacturer Info B	Manufacturer Info Block B02	23	Hex
System Data	Manufacturer Info B	Manufacturer Info Block B03	45	Hex
System Data	Manufacturer Info B	Manufacturer Info Block B04	67	Hex
System Data	Integrity	Static DF Signature	0	hex
System Data	Integrity	Static Chem DF Signature	7397	hex
System Data	Integrity	All DF Signature	0	hex
SBS Configuration	Data	Remaining AH Cap. Alarm	100	mAh
SBS Configuration	Data	Remaining WH Cap. Alarm	144	cWh
SBS Configuration	Data	Remaining Time Alarm	10	min
SBS Configuration	Data	Initial Battery Mode	81	hex
SBS Configuration	Data	Specification Information	31	hex
SBS Configuration	Data	Manufacture Date	12/5/2018	date
SBS Configuration	Data	Serial Number	1	hex
SBS Configuration	Data	Manufacturer Name	TOTEX MFG	-
SBS Configuration	Data	Device Name	X SERIES	-
SBS Configuration	Data	Device Chemistry	LION	-
Lifetimes	Voltage	Cell 1 Max Voltage	0	mV
Lifetimes	Voltage	Cell 2 Max Voltage	0	mV
Lifetimes	Voltage	Cell 3 Max Voltage	0	mV
Lifetimes	Voltage	Cell 4 Max Voltage	0	mV

Lifetimes	Voltage	Cell 1 Min Voltage	32767	mV
Lifetimes	Voltage	Cell 2 Min Voltage	32767	mV
Lifetimes	Voltage	Cell 3 Min Voltage	32767	mV
Lifetimes	Voltage	Cell 4 Min Voltage	32767	mV
Lifetimes	Voltage	Max Delta Cell Voltage	0	mV
Lifetimes	Current	Max Charge Current	0	mA
Lifetimes	Current	Max Discharge Current	0	mA
Lifetimes	Current	Max Avg Dsg Current	0	mA
Lifetimes	Current	Max Avg Dsg Power	0	cW
Lifetimes	Temperature	Max Temp Cell	-128	°C
Lifetimes	Temperature	Min Temp Cell	127	°C
Lifetimes	Temperature	Max Delta Cell Temp	0	°C
Lifetimes	Temperature	Max Temp Int Sensor	-128	°C
Lifetimes	Temperature	Min Temp Int Sensor	127	°C
Lifetimes	Temperature	Max Temp Fet	-128	°C
Lifetimes	Safety Events	No Of COV Events	0	events
Lifetimes	Safety Events	Last COV Event	0	cycles
Lifetimes	Safety Events	No Of CUV Events	0	events
Lifetimes	Safety Events	Last CUV Event	0	cycles
Lifetimes	Safety Events	No Of OCD1 Events	0	events
Lifetimes	Safety Events	Last OCD1 Event	0	cycles
Lifetimes	Safety Events	No Of OCD2 Events	0	events
Lifetimes	Safety Events	Last OCD2 Event	0	cycles
Lifetimes	Safety Events	No Of OCC1 Events	0	events
Lifetimes	Safety Events	Last OCC1 Event	0	cycles
Lifetimes	Safety Events	No Of OCC2 Events	0	events
Lifetimes	Safety Events	Last OCC2 Event	0	cycles
Lifetimes	Safety Events	No Of AOLD Events	0	events
Lifetimes	Safety Events	Last AOLD Event	0	cycles
Lifetimes	Safety Events	No Of ASCD Events	0	events
Lifetimes	Safety Events	Last ASCD Event	0	cycles
Lifetimes	Safety Events	No Of ASCC Events	0	events
Lifetimes	Safety Events	Last ASCC Event	0	cycles
Lifetimes	Safety Events	No Of OTC Events	0	events
Lifetimes	Safety Events	Last OTC Event	0	cycles
Lifetimes	Safety Events	No Of OTD Events	0	events
Lifetimes	Safety Events	Last OTD Event	0	cycles
Lifetimes	Safety Events	No Of OTF Events	0	events
Lifetimes	Safety Events	Last OTF Event	0	cycles
Lifetimes	Charging Events	No Valid Charge Term	0	events
Lifetimes	Charging Events	Last Valid Charge Term	0	cycles
Lifetimes	Gauging Events	No Of Qmax Updates	0	events
Lifetimes	Gauging Events	Last Qmax Update	0	cycles
Lifetimes	Gauging Events	No Of Ra Updates	0	events
Lifetimes	Gauging Events	Last Ra Update	0	cycles
Lifetimes	Gauging Events	No Of Ra Disable	0	events
Lifetimes	Gauging Events	Last Ra Disable	0	cycles
Lifetimes	Power Events	No Of Shutdowns	0	events

Lifetimes	Cell Balancing	Cb Time Cell 1	0	h
Lifetimes	Cell Balancing	Cb Time Cell 2	0	h
Lifetimes	Cell Balancing	Cb Time Cell 3	0	h
Lifetimes	Cell Balancing	Cb Time Cell 4	0	h
Lifetimes	Time	Total Fw Runtime	0	h
Lifetimes	Time	Time Spent In UT	0	h
Lifetimes	Time	Time Spent In LT	0	h
Lifetimes	Time	Time Spent In STL	0	h
Lifetimes	Time	Time Spent In RT	0	h
Lifetimes	Time	Time Spent In STH	0	h
Lifetimes	Time	Time Spent In HT	0	h
Lifetimes	Time	Time Spent In OT	0	h
Protections	CUV	Threshold	2750	mV
Protections	CUV	Delay	2	s
Protections	CUV	Recovery	3050	mV
Protections	CUVC	Threshold	2400	mV
Protections	CUVC	Delay	0	s
Protections	CUVC	Recovery	3000	mV
Protections	COV	Threshold Low Temp	4250	mV
Protections	COV	Threshold Standard Temp	4250	mV
Protections	COV	Threshold High Temp	4250	mV
Protections	COV	Threshold Rec Temp	4250	mV
Protections	COV	Delay	2	s
Protections	COV	Recovery Low Temp	4050	mV
Protections	COV	Recovery Standard Temp	4050	mV
Protections	COV	Recovery High Temp	4050	mV
Protections	COV	Recovery Rec Temp	4050	mV
Protections	OCC1	Threshold	2250	mA
Protections	OCC1	Delay	2	s
Protections	OCC2	Threshold	8000	mA
Protections	OCC2	Delay	0	s
Protections	OCC	Recovery Threshold	100	mA
Protections	OCC	Recovery Delay	10	s
Protections	OCD1	Threshold	-14000	mA
Protections	OCD1	Delay	10	s
Protections	OCD2	Threshold	-15000	mA
Protections	OCD2	Delay	5	s
Protections	OCD	Recovery Threshold	-100	mA
Protections	OCD	Recovery Delay	10	s
Protections	AOLD	Latch Limit	0	-
Protections	AOLD	Counter Dec Delay	10	s
Protections	AOLD	Recovery	5	s
Protections	AOLD	Reset	15	s
Protections	AOLD	Threshold	ff	hex
Protections	ASCC	Latch Limit	0	-
Protections	ASCC	Counter Dec Delay	10	s
Protections	ASCC	Recovery	5	s

Protections	ASCC	Reset	15	s
Protections	ASCC	Threshold	83	hex
Protections	ASCD	Latch Limit	0	-
Protections	ASCD	Counter Dec Delay	10	s
Protections	ASCD	Recovery	5	s
Protections	ASCD	Reset	15	s
Protections	ASCD	Threshold 1	76	hex
Protections	ASCD	Threshold 2	77	hex
Protections	OTC	Threshold	50	1°C
Protections	OTC	Delay	2	s
Protections	OTC	Recovery	45	1°C
Protections	OTD	Threshold	65	1°C
Protections	OTD	Delay	2	s
Protections	OTD	Recovery	55	1°C
Protections	OTF	Threshold	85	1°C
Protections	OTF	Delay	2	s
Protections	OTF	Recovery	75	1°C
Protections	UTC	Threshold	0	1°C
Protections	UTC	Delay	2	s
Protections	UTC	Recovery	5	1°C
Protections	UTD	Threshold	0	1°C
Protections	UTD	Delay	2	s
Protections	UTD	Recovery	5	1°C
Protections	HWD	Delay	10	s
Protections	PTO	Charge Threshold	256	mA
Protections	PTO	Suspend Threshold	165	mA
Protections	PTO	Delay	3600	s
Protections	PTO	Reset	2	mAh
Protections	CTO	Charge Threshold	1400	mA
Protections	CTO	Suspend Threshold	1300	mA
Protections	CTO	Delay	14400	s
Protections	CTO	Reset	2	mAh
Protections	OC	Threshold	500	mAh
Protections	OC	Recovery	2	mAh
Protections	OC	RSOC Recovery	95	%
Protections	CHGV	Threshold	500	mV
Protections	CHGV	Delay	30	s
Protections	CHGV	Recovery	-500	mV
Protections	CHGC	Threshold	250	mA
Protections	CHGC	Delay	2	s
Protections	CHGC	Recovery Threshold	50	mA
Protections	CHGC	Recovery Delay	2	s
Protections	PCHGC	Threshold	25	mA
Protections	PCHGC	Delay	2	s
Protections	PCHGC	Recovery Threshold	5	mA
Protections	PCHGC	Recovery Delay	2	s
Permanent Fail	SUV	Threshold	1800	mV
Permanent Fail	SUV	Delay	0	s
Permanent Fail	SOV	Threshold	4350	mV

Permanent Fail	SOV	Delay	5	s
Permanent Fail	SOCC	Threshold	3000	mA
Permanent Fail	SOCC	Delay	5	s
Permanent Fail	SOCD	Threshold	-16000	mA
Permanent Fail	SOCD	Delay	6	s
Permanent Fail	SOT	Threshold	85	1°C
Permanent Fail	SOT	Delay	10	s
Permanent Fail	SOTF	Threshold	100	1°C
Permanent Fail	SOTF	Delay	5	s
Permanent Fail	Open Thermistor	Threshold	-50	1°C
Permanent Fail	Open Thermistor	Delay	5	s
Permanent Fail	Open Thermistor	Fet Delta	20	1°C
Permanent Fail	Open Thermistor	Cell Delta	20	1°C
Permanent Fail	QIM	Delta Threshold	15	%
Permanent Fail	QIM	Delay	2	updates
Permanent Fail	CB	Max Threshold	240	h
Permanent Fail	CB	Delta Threshold	40	h
Permanent Fail	CB	Delay	2	cycles
Permanent Fail	VIMR	Check Voltage	3500	mV
Permanent Fail	VIMR	Check Current	10	mA
Permanent Fail	VIMR	Delta Threshold	500	mV
Permanent Fail	VIMR	Delta Delay	5	s
Permanent Fail	VIMR	Duration	100	s
Permanent Fail	VIMA	Check Voltage	3700	mV
Permanent Fail	VIMA	Check Current	50	mA
Permanent Fail	VIMA	Delta Threshold	200	mV
Permanent Fail	VIMA	Delay	5	s
Permanent Fail	IMP	Delta Threshold	300	%
Permanent Fail	IMP	Max Threshold	400	%
Permanent Fail	IMP	Ra Update Counts	2	Counts
Permanent Fail	CD	Threshold	0	mAh
Permanent Fail	CD	Delay	2	cycles
Permanent Fail	CFET	OFF Threshold	5	mA
Permanent Fail	CFET	OFF Delay	5	s
Permanent Fail	DFET	OFF Threshold	-5	mA
Permanent Fail	DFET	OFF Delay	5	s
Permanent Fail	FUSE	Threshold	5	mA
Permanent Fail	FUSE	Delay	5	s
Permanent Fail	AFER	Threshold	100	-
Permanent Fail	AFER	Delay Period	2	s
Permanent Fail	AFER	Compare Period	5	s
Permanent Fail	AFEC	Threshold	100	-
Permanent Fail	AFEC	Delay Period	5	s
Permanent Fail	2LVL	Delay	5	s
Permanent Fail	OPNCELL	Threshold	5000	mV
Permanent Fail	OPNCELL	Delay	5	s
PF Status	Device Status Data	Safety Alert A	0	hex
PF Status	Device Status Data	Safety Status A	0	hex
PF Status	Device Status Data	Safety Alert B	0	hex

PF Status	Device Status Data	Safety Status B	0	hex
PF Status	Device Status Data	Safety Alert C	0	hex
PF Status	Device Status Data	Safety Status C	0	hex
PF Status	Device Status Data	Safety Alert D	0	hex
PF Status	Device Status Data	Safety Status D	0	hex
PF Status	Device Status Data	PF Alert A	0	hex
PF Status	Device Status Data	PF Status A	0	hex
PF Status	Device Status Data	PF Alert B	0	hex
PF Status	Device Status Data	PF Status B	0	hex
PF Status	Device Status Data	PF Alert C	0	hex
PF Status	Device Status Data	PF Status C	0	hex
PF Status	Device Status Data	PF Alert D	0	hex
PF Status	Device Status Data	PF Status D	0	hex
PF Status	Device Status Data	Fuse Flag	0	hex
PF Status	Device Status Data	Operation Status A	0	hex
PF Status	Device Status Data	Operation Status B	0	hex
PF Status	Device Status Data	Temp Range	0	hex
PF Status	Device Status Data	Charging Status A	0	hex
PF Status	Device Status Data	Charging Status B	0	hex
PF Status	Device Status Data	Gauging Status	0	hex
PF Status	Device Status Data	IT Status	0	hex
PF Status	Device Voltage Data	Cell 1 Voltage	0	mV
PF Status	Device Voltage Data	Cell 2 Voltage	0	mV
PF Status	Device Voltage Data	Cell 3 Voltage	0	mV
PF Status	Device Voltage Data	Cell 4 Voltage	0	mV
PF Status	Device Voltage Data	Battery Direct Voltage	0	mV
PF Status	Device Voltage Data	Pack Voltage	0	mV
PF Status	Device Current Data	Current	0	mA
PF Status	Device Temperature Data	Internal Temperature	-273.2	°C
PF Status	Device Temperature Data	External 1 Temperature	-273.2	°C
PF Status	Device Temperature Data	External 2 Temperature	-273.2	°C
PF Status	Device Temperature Data	External 3 Temperature	-273.2	°C
PF Status	Device Temperature Data	External 4 Temperature	-273.2	°C
PF Status	Device Gauging Data	Cell 1 Dod0	0	-
PF Status	Device Gauging Data	Cell 2 Dod0	0	-
PF Status	Device Gauging Data	Cell 3 Dod0	0	-
PF Status	Device Gauging Data	Cell 4 Dod0	0	-
PF Status	Device Gauging Data	Passed Charge	0	mAh
PF Status	AFE Regs	AFE Interrupt Status	0	hex
PF Status	AFE Regs	AFE FET Status	0	hex
PF Status	AFE Regs	AFE RXIN	0	hex
PF Status	AFE Regs	AFE Latch Status	0	hex
PF Status	AFE Regs	AFE Interrupt Enable	0	hex
PF Status	AFE Regs	AFE FET Control	0	hex
PF Status	AFE Regs	AFE RXIEN	0	hex
PF Status	AFE Regs	AFE RLOUT	0	hex
PF Status	AFE Regs	AFE RHOUT	0	hex
PF Status	AFE Regs	AFE RHINT	0	hex
PF Status	AFE Regs	AFE Cell Balance	0	hex

PF Status	AFE Regs	AFE AD/CC Control	0	hex
PF Status	AFE Regs	AFE ADC Mux	0	hex
PF Status	AFE Regs	AFE LED Output	0	hex
PF Status	AFE Regs	AFE State Control	0	hex
PF Status	AFE Regs	AFE LED/Wake Control	0	hex
PF Status	AFE Regs	AFE Protection Control	0	hex
PF Status	AFE Regs	AFE OCD	0	hex
PF Status	AFE Regs	AFE SCC	0	hex
PF Status	AFE Regs	AFE SCD1	0	hex
PF Status	AFE Regs	AFE SCD2	0	hex
Black Box	Safety Status	1st Status Status A	0	hex
Black Box	Safety Status	1st Status Status B	0	hex
Black Box	Safety Status	1st Safety Status C	0	hex
Black Box	Safety Status	1st Safety Status D	0	hex
Black Box	Safety Status	1st Time to Next Event	0	s
Black Box	Safety Status	2nd Status Status A	0	hex
Black Box	Safety Status	2nd Status Status B	0	hex
Black Box	Safety Status	2nd Safety Status C	0	hex
Black Box	Safety Status	2nd Safety Status D	0	hex
Black Box	Safety Status	2nd Time to Next Event	0	s
Black Box	Safety Status	3rd Status Status A	0	hex
Black Box	Safety Status	3rd Status Status B	0	hex
Black Box	Safety Status	3rd Safety Status C	0	hex
Black Box	Safety Status	3rd Safety Status D	0	hex
Black Box	Safety Status	3rd Time to Next Event	0	s
Black Box	PF Status	1st PF Status A	0	hex
Black Box	PF Status	1st PF Status B	0	hex
Black Box	PF Status	1st PF Status C	0	hex
Black Box	PF Status	1st PF Status D	0	hex
Black Box	PF Status	1st Time to Next Event	0	s
Black Box	PF Status	2nd PF Status A	0	hex
Black Box	PF Status	2nd PF Status B	0	hex
Black Box	PF Status	2nd PF Status C	0	hex
Black Box	PF Status	2nd PF Status D	0	hex
Black Box	PF Status	2nd Time to Next Event	0	s
Black Box	PF Status	3rd PF Status A	0	hex
Black Box	PF Status	3rd PF Status B	0	hex
Black Box	PF Status	3rd PF Status C	0	hex
Black Box	PF Status	3rd PF Status D	0	hex
Black Box	PF Status	3rd Time to Next Event	0	s
Gas Gauging	Current Thresholds	Dsg Current Threshold	50	mA
Gas Gauging	Current Thresholds	Chg Current Threshold	25	mA
Gas Gauging	Current Thresholds	Quit Current	5	mA
Gas Gauging	Current Thresholds	Dsg Relax Time	1	s
Gas Gauging	Current Thresholds	Chg Relax Time	60	s
Gas Gauging	Design	Design Capacity mAh	1000	mAh

Gas Gauging	Design	Design Capacity cWh	1440	cWh
Gas Gauging	Design	Design Voltage	14400	mV
Gas Gauging	Cycle	Cycle Count Percentage	90	%
Gas Gauging	FD	Set Voltage Threshold	3150	mV
Gas Gauging	FD	Clear Voltage Threshold	3250	mV
Gas Gauging	FD	Set % RSOC Threshold	2	%
Gas Gauging	FD	Clear % RSOC Threshold	5	%
Gas Gauging	FC	Set Voltage Threshold	4000	mV
Gas Gauging	FC	Clear Voltage Threshold	3900	mV
Gas Gauging	FC	Set % RSOC Threshold	100	%
Gas Gauging	FC	Clear % RSOC Threshold	95	%
Gas Gauging	TD	Set Voltage Threshold	3050	mV
Gas Gauging	TD	Clear Voltage Threshold	3200	mV
Gas Gauging	TD	Set % RSOC Threshold	6	%
Gas Gauging	TD	Clear % RSOC Threshold	8	%
Gas Gauging	TC	Set Voltage Threshold	4050	mV
Gas Gauging	TC	Clear Voltage Threshold	3950	mV
Gas Gauging	TC	Set % RSOC Threshold	100	%
Gas Gauging	TC	Clear % RSOC Threshold	95	%
Gas Gauging	State	Cycle Count	0	-
Gas Gauging	State	Qmax Cell 1	1253	mAh
Gas Gauging	State	Qmax Cell 2	1241	mAh
Gas Gauging	State	Qmax Cell 3	1252	mAh
Gas Gauging	State	Qmax Cell 4	1263	mAh
Gas Gauging	State	Qmax Pack	1241	mAh
Gas Gauging	State	Qmax Cycle Count	0	-
Gas Gauging	State	Update Status	2	-
Gas Gauging	State	Cell 1 Chg Voltage at EoC	3993	mV
Gas Gauging	State	Cell 2 Chg Voltage at EoC	3991	mV
Gas Gauging	State	Cell 3 Chg Voltage at EoC	3989	mV
Gas Gauging	State	Cell 4 Chg Voltage at EoC	3992	mV
Gas Gauging	State	Current at EoC	84	mA
Gas Gauging	State	Avg I Last Run	-199	mA
Gas Gauging	State	Avg P Last Run	-288	cW
Gas Gauging	State	Delta Voltage	27	mV

Gas Gauging	State	Temp k	10	°C/256mW
Gas Gauging	State	Temp a	18000	s
Gas Gauging	State	Max Avg I Last Run	-249	mA
Gas Gauging	State	Max Avg P Last Run	-367	cW
Gas Gauging	IT Cfg	Load Select	1	-
Gas Gauging	IT Cfg	Load Mode	1	-
Gas Gauging	IT Cfg	User Rate-mA	0	mA
Gas Gauging	IT Cfg	User Rate-cW	0	cW
Gas Gauging	IT Cfg	Reserve Cap-mAh	0	mAh
Gas Gauging	IT Cfg	Reserve Cap-cWh	0	cWh
Gas Gauging	IT Cfg	Design Resistance	63	mOhm
Gas Gauging	IT Cfg	Pack Resistance	30	mOhm
Gas Gauging	IT Cfg	System Resistance	0	mOhm
Gas Gauging	IT Cfg	Ra Filter	80	%
Gas Gauging	IT Cfg	Ra Max Delta	15	%
Gas Gauging	IT Cfg	Reference Grid	4	-
Gas Gauging	IT Cfg	Resistance Parameter Filter	65142	-
Gas Gauging	IT Cfg	Near EDV Ra Param Filter	59220	-
Gas Gauging	IT Cfg	Qmax Delta	5	%
Gas Gauging	IT Cfg	Qmax Upper Bound	130	%
Gas Gauging	IT Cfg	Term Voltage	12400	mV
Gas Gauging	IT Cfg	Term V Hold Time	1	s
Gas Gauging	IT Cfg	Term Voltage Delta	200	mV
Gas Gauging	IT Cfg	Term Min Cell V	2800	mV
Gas Gauging	IT Cfg	Max Simulation Iterations	30	-
Gas Gauging	IT Cfg	Fast Scale Start SOC	10	%
Gas Gauging	IT Cfg	Min Delta Voltage	0	mV
Gas Gauging	Smoothing	Smooth Relax Time	1000	s
Gas Gauging	Condition Flag	Max Error Limit	100	%
Gas Gauging	Max Error	Time Cycle Equivalent	24	h
Gas Gauging	Max Error	Cycle Delta	0.05	%
Gas Gauging	SoH	SoH Load Rate	5	Hr rate
Gas Gauging	Turbo Cfg	Min Turbo Power	0	cW
Gas Gauging	Turbo Cfg	Max C Rate	-4	C
Gas Gauging	Turbo Cfg	High Frequency Resistance	28	mOhm
Gas Gauging	Turbo Cfg	Reserve Energy %	0	%
Ra Table	R_a0	Cell0 R_a flag	55	-
Ra Table	R_a0	Cell0 R_a 0	187	2 ⁻¹⁰ ohm
Ra Table	R_a0	Cell0 R_a 1	59	2 ⁻¹⁰ ohm
Ra Table	R_a0	Cell0 R_a 2	79	2 ⁻¹⁰ ohm
Ra Table	R_a0	Cell0 R_a 3	156	2 ⁻¹⁰ ohm
Ra Table	R_a0	Cell0 R_a 4	64	2 ⁻¹⁰ ohm
Ra Table	R_a0	Cell0 R_a 5	79	2 ⁻¹⁰ ohm
Ra Table	R_a0	Cell0 R_a 6	93	2 ⁻¹⁰ ohm

Ra Table	R_a0	Cell0 R_a 7	83	2 ⁻¹⁰ ohm
Ra Table	R_a0	Cell0 R_a 8	88	2 ⁻¹⁰ ohm
Ra Table	R_a0	Cell0 R_a 9	70	2 ⁻¹⁰ ohm
Ra Table	R_a0	Cell0 R_a 10	121	2 ⁻¹⁰ ohm
Ra Table	R_a0	Cell0 R_a 11	347	2 ⁻¹⁰ ohm
Ra Table	R_a0	Cell0 R_a 12	724	2 ⁻¹⁰ ohm
Ra Table	R_a0	Cell0 R_a 13	2456	2 ⁻¹⁰ ohm
Ra Table	R_a0	Cell0 R_a 14	32767	2 ⁻¹⁰ ohm
Ra Table	R_a1	Cell1 R_a flag	0	-
Ra Table	R_a1	Cell1 R_a 0	197	2 ⁻¹⁰ ohm
Ra Table	R_a1	Cell1 R_a 1	62	2 ⁻¹⁰ ohm
Ra Table	R_a1	Cell1 R_a 2	82	2 ⁻¹⁰ ohm
Ra Table	R_a1	Cell1 R_a 3	163	2 ⁻¹⁰ ohm
Ra Table	R_a1	Cell1 R_a 4	67	2 ⁻¹⁰ ohm
Ra Table	R_a1	Cell1 R_a 5	81	2 ⁻¹⁰ ohm
Ra Table	R_a1	Cell1 R_a 6	98	2 ⁻¹⁰ ohm
Ra Table	R_a1	Cell1 R_a 7	94	2 ⁻¹⁰ ohm
Ra Table	R_a1	Cell1 R_a 8	95	2 ⁻¹⁰ ohm
Ra Table	R_a1	Cell1 R_a 9	76	2 ⁻¹⁰ ohm
Ra Table	R_a1	Cell1 R_a 10	134	2 ⁻¹⁰ ohm
Ra Table	R_a1	Cell1 R_a 11	396	2 ⁻¹⁰ ohm
Ra Table	R_a1	Cell1 R_a 12	579	2 ⁻¹⁰ ohm
Ra Table	R_a1	Cell1 R_a 13	1948	2 ⁻¹⁰ ohm
Ra Table	R_a1	Cell1 R_a 14	32669	2 ⁻¹⁰ ohm
Ra Table	R_a2	Cell2 R_a flag	0	-
Ra Table	R_a2	Cell2 R_a 0	178	2 ⁻¹⁰ ohm
Ra Table	R_a2	Cell2 R_a 1	56	2 ⁻¹⁰ ohm
Ra Table	R_a2	Cell2 R_a 2	79	2 ⁻¹⁰ ohm
Ra Table	R_a2	Cell2 R_a 3	157	2 ⁻¹⁰ ohm
Ra Table	R_a2	Cell2 R_a 4	65	2 ⁻¹⁰ ohm
Ra Table	R_a2	Cell2 R_a 5	80	2 ⁻¹⁰ ohm
Ra Table	R_a2	Cell2 R_a 6	95	2 ⁻¹⁰ ohm
Ra Table	R_a2	Cell2 R_a 7	92	2 ⁻¹⁰ ohm
Ra Table	R_a2	Cell2 R_a 8	95	2 ⁻¹⁰ ohm
Ra Table	R_a2	Cell2 R_a 9	75	2 ⁻¹⁰ ohm
Ra Table	R_a2	Cell2 R_a 10	135	2 ⁻¹⁰ ohm
Ra Table	R_a2	Cell2 R_a 11	402	2 ⁻¹⁰ ohm
Ra Table	R_a2	Cell2 R_a 12	766	2 ⁻¹⁰ ohm
Ra Table	R_a2	Cell2 R_a 13	2600	2 ⁻¹⁰ ohm
Ra Table	R_a2	Cell2 R_a 14	32549	2 ⁻¹⁰ ohm
Ra Table	R_a3	Cell3 R_a flag	55	-
Ra Table	R_a3	Cell3 R_a 0	188	2 ⁻¹⁰ ohm
Ra Table	R_a3	Cell3 R_a 1	59	2 ⁻¹⁰ ohm
Ra Table	R_a3	Cell3 R_a 2	79	2 ⁻¹⁰ ohm
Ra Table	R_a3	Cell3 R_a 3	142	2 ⁻¹⁰ ohm
Ra Table	R_a3	Cell3 R_a 4	63	2 ⁻¹⁰ ohm
Ra Table	R_a3	Cell3 R_a 5	75	2 ⁻¹⁰ ohm
Ra Table	R_a3	Cell3 R_a 6	90	2 ⁻¹⁰ ohm
Ra Table	R_a3	Cell3 R_a 7	74	2 ⁻¹⁰ ohm

Ra Table	R_a3	Cell3 R_a 8	84	2 ⁻¹⁰ ohm
Ra Table	R_a3	Cell3 R_a 9	67	2 ⁻¹⁰ ohm
Ra Table	R_a3	Cell3 R_a 10	117	2 ⁻¹⁰ ohm
Ra Table	R_a3	Cell3 R_a 11	351	2 ⁻¹⁰ ohm
Ra Table	R_a3	Cell3 R_a 12	429	2 ⁻¹⁰ ohm
Ra Table	R_a3	Cell3 R_a 13	1438	2 ⁻¹⁰ ohm
Ra Table	R_a3	Cell3 R_a 14	32767	2 ⁻¹⁰ ohm
Ra Table	R_a0x	xCell0 R_a flag	0	-
Ra Table	R_a0x	xCell0 R_a 0	187	2 ⁻¹⁰ ohm
Ra Table	R_a0x	xCell0 R_a 1	59	2 ⁻¹⁰ ohm
Ra Table	R_a0x	xCell0 R_a 2	79	2 ⁻¹⁰ ohm
Ra Table	R_a0x	xCell0 R_a 3	156	2 ⁻¹⁰ ohm
Ra Table	R_a0x	xCell0 R_a 4	64	2 ⁻¹⁰ ohm
Ra Table	R_a0x	xCell0 R_a 5	79	2 ⁻¹⁰ ohm
Ra Table	R_a0x	xCell0 R_a 6	93	2 ⁻¹⁰ ohm
Ra Table	R_a0x	xCell0 R_a 7	83	2 ⁻¹⁰ ohm
Ra Table	R_a0x	xCell0 R_a 8	88	2 ⁻¹⁰ ohm
Ra Table	R_a0x	xCell0 R_a 9	70	2 ⁻¹⁰ ohm
Ra Table	R_a0x	xCell0 R_a 10	121	2 ⁻¹⁰ ohm
Ra Table	R_a0x	xCell0 R_a 11	338	2 ⁻¹⁰ ohm
Ra Table	R_a0x	xCell0 R_a 12	705	2 ⁻¹⁰ ohm
Ra Table	R_a0x	xCell0 R_a 13	2392	2 ⁻¹⁰ ohm
Ra Table	R_a0x	xCell0 R_a 14	32767	2 ⁻¹⁰ ohm
Ra Table	R_a1x	xCell1 R_a flag	55	-
Ra Table	R_a1x	xCell1 R_a 0	197	2 ⁻¹⁰ ohm
Ra Table	R_a1x	xCell1 R_a 1	62	2 ⁻¹⁰ ohm
Ra Table	R_a1x	xCell1 R_a 2	82	2 ⁻¹⁰ ohm
Ra Table	R_a1x	xCell1 R_a 3	163	2 ⁻¹⁰ ohm
Ra Table	R_a1x	xCell1 R_a 4	67	2 ⁻¹⁰ ohm
Ra Table	R_a1x	xCell1 R_a 5	81	2 ⁻¹⁰ ohm
Ra Table	R_a1x	xCell1 R_a 6	98	2 ⁻¹⁰ ohm
Ra Table	R_a1x	xCell1 R_a 7	94	2 ⁻¹⁰ ohm
Ra Table	R_a1x	xCell1 R_a 8	95	2 ⁻¹⁰ ohm
Ra Table	R_a1x	xCell1 R_a 9	76	2 ⁻¹⁰ ohm
Ra Table	R_a1x	xCell1 R_a 10	134	2 ⁻¹⁰ ohm
Ra Table	R_a1x	xCell1 R_a 11	396	2 ⁻¹⁰ ohm
Ra Table	R_a1x	xCell1 R_a 12	588	2 ⁻¹⁰ ohm
Ra Table	R_a1x	xCell1 R_a 13	1978	2 ⁻¹⁰ ohm
Ra Table	R_a1x	xCell1 R_a 14	32767	2 ⁻¹⁰ ohm
Ra Table	R_a2x	xCell2 R_a flag	55	-
Ra Table	R_a2x	xCell2 R_a 0	178	2 ⁻¹⁰ ohm
Ra Table	R_a2x	xCell2 R_a 1	56	2 ⁻¹⁰ ohm
Ra Table	R_a2x	xCell2 R_a 2	79	2 ⁻¹⁰ ohm
Ra Table	R_a2x	xCell2 R_a 3	157	2 ⁻¹⁰ ohm
Ra Table	R_a2x	xCell2 R_a 4	65	2 ⁻¹⁰ ohm
Ra Table	R_a2x	xCell2 R_a 5	80	2 ⁻¹⁰ ohm
Ra Table	R_a2x	xCell2 R_a 6	95	2 ⁻¹⁰ ohm
Ra Table	R_a2x	xCell2 R_a 7	92	2 ⁻¹⁰ ohm
Ra Table	R_a2x	xCell2 R_a 8	95	2 ⁻¹⁰ ohm

Ra Table	R_a2x	xCell2 R_a 9	75	2 ⁻¹⁰ ohm
Ra Table	R_a2x	xCell2 R_a 10	135	2 ⁻¹⁰ ohm
Ra Table	R_a2x	xCell2 R_a 11	402	2 ⁻¹⁰ ohm
Ra Table	R_a2x	xCell2 R_a 12	775	2 ⁻¹⁰ ohm
Ra Table	R_a2x	xCell2 R_a 13	2631	2 ⁻¹⁰ ohm
Ra Table	R_a2x	xCell2 R_a 14	32767	2 ⁻¹⁰ ohm
Ra Table	R_a3x	xCell3 R_a flag	0	-
Ra Table	R_a3x	xCell3 R_a 0	188	2 ⁻¹⁰ ohm
Ra Table	R_a3x	xCell3 R_a 1	59	2 ⁻¹⁰ ohm
Ra Table	R_a3x	xCell3 R_a 2	79	2 ⁻¹⁰ ohm
Ra Table	R_a3x	xCell3 R_a 3	142	2 ⁻¹⁰ ohm
Ra Table	R_a3x	xCell3 R_a 4	63	2 ⁻¹⁰ ohm
Ra Table	R_a3x	xCell3 R_a 5	75	2 ⁻¹⁰ ohm
Ra Table	R_a3x	xCell3 R_a 6	90	2 ⁻¹⁰ ohm
Ra Table	R_a3x	xCell3 R_a 7	74	2 ⁻¹⁰ ohm
Ra Table	R_a3x	xCell3 R_a 8	84	2 ⁻¹⁰ ohm
Ra Table	R_a3x	xCell3 R_a 9	67	2 ⁻¹⁰ ohm
Ra Table	R_a3x	xCell3 R_a 10	117	2 ⁻¹⁰ ohm
Ra Table	R_a3x	xCell3 R_a 11	342	2 ⁻¹⁰ ohm
Ra Table	R_a3x	xCell3 R_a 12	418	2 ⁻¹⁰ ohm
Ra Table	R_a3x	xCell3 R_a 13	1401	2 ⁻¹⁰ ohm
Ra Table	R_a3x	xCell3 R_a 14	32285	2 ⁻¹⁰ ohm