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Texas Instruments Data Flash File
* File created Thu Jun 20 10:12:49 2024
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* Device Number 4500
* Firmware Version 3.09
* Build Number 73
* Order Number 0
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* bqz Device Number 4500
* bqz Firmware Version 3.09
* bqz Build Number 73
*
[Voltage(Calibration)]
Cell Gain = 12133
Pack Gain = 49602
BAT Gain = 48975
[Current(Calibration)]
CC Gain = 2.110
Capacity Gain = 2.110
[Current Offset(Calibration)]
CC Offset = 0
Coulomb Counter Offset Samples = 64
Board Offset = 0
CC Auto Config = 07
CC Auto Offset = -47
[Temperature(Calibration)]
Internal Temp Offset = 0.0
External1 Temp Offset = 0.0
External2 Temp Offset = 0.0
External3 Temp Offset = 0.0
External4 Temp Offset = 0.0
[Internal Temp Model(Calibration)]
Int Gain = -12143
Int base offset = 6232
Int Minimum AD = 0
Int Maximum Temp = 6232
[Cell Temperature Model(Calibration)]
Coeff a1 = -11130
Coeff a2 = 19142
Coeff a3 = -19262
Coeff a4 = 28203
Coeff a5 = 892
Coeff b1 = 328
Coeff b2 = -605
Coeff b3 = -2443
Coeff b4 = 4696
Rc0 = 11703
Adc0 = 11703
Rpad = 0
Rint = 0
[Fet Temperature Model(Calibration)]
Coeff a1 = -11130
Coeff a2 = 19142
Coeff a3 = -19262
Coeff a4 = 28203
Coeff a5 = 892
Coeff b1 = 328
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Coeff b2 = -605
Coeff b3 = -2443
Coeff b4 = 4696
Rc0 = 11703
Adc0 = 11703
Rpad = 0
Rint = 0
[Current Deadband(Calibration)]
Deadband = 3
Coulomb Counter Deadband = 9
[Interconnect Resistance(Calibration)]
Cell 1 = 0
Cell 2 = 0
Cell 3 = 0
Cell 4 = 0

[Configuration(Settings)]
Charging Configuration = 0014
FET Options = 0024
Sbs Gauging Configuration = 000d
Sbs Configuration = 0006
Auth Config = 00
Power Config = 000d
IO Config = 0004
GPIO Sealed Access Config = 0006
Flag Map Set Up 1 = 0000
Flag Map Set Up 2 = 0000
Flag Map Set Up 3 = 0000
Flag Map Set Up 4 = 0000
LED Configuration = 0000
Temperature Enable = 1f
Temperature Mode = 01
DA Configuration = 411f
SOC Flag Config A = 0c8c
SOC Flag Config B = 008c
Balancing Configuration = 0007
IT Gauging Configuration = d0d6
IT Gauging Ext = 001a
Elevated Degrade Configuration = 15
[Fuse(Settings)]
PF Fuse A = 00
PF Fuse B = 18
PF Fuse C = 00
PF Fuse D = 00
Min Blow Fuse Voltage = 3500
Fuse Blow Timeout = 30
GPIO Timeout = 30
[BTP(Settings)]
Init Discharge Set = 150
Init Charge Set = 175
[SMBus(Settings)]
Address = 16
Address Check = ea
[Lifetimes(Settings)]
Lifetimes Configuration = 0000
Time RSOC Threshold A = 95
Time RSOC Threshold B = 90
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Time RSOC Threshold C = 80
Time RSOC Threshold D = 50
Time RSOC Threshold E = 20
Time RSOC Threshold F = 10
Time RSOC Threshold G = 5
[Protection(Settings)]
Protection Configuration = 0002
Enabled Protections A = ff
Enabled Protections B = 3f
Enabled Protections C = 15
Enabled Protections D = 0f
[Permanent Failure(Settings)]
Enabled PF A = 00
Enabled PF B = 18
Enabled PF C = 00
Enabled PF D = 00
[AFE(Settings)]
AFE Protection Control = 71
ZVCHG Exit Threshold = 2200
[Manufacturing(Settings)]
Mfg Status init = 0148
[Accumulated Charge(Settings)]
Accum Discharge Threshold = -1000
Accum Charge Threshold = 1000

[Temperature Ranges(Advanced Charge Algorithm)]
T1 Temp = 0.0
T2 Temp = 10.0
T5 Temp = 20.0
T6 Temp = 35.0
T3 Temp = 45.0
T4 Temp = 55.0
Hysteresis Temp = 1.0
[Low Temp Charging(Advanced Charge Algorithm)]
Current Low = 5500
Current Med = 5500
Current High = 3700
Voltage = 4200
[Standard Temp Low Charging(Advanced Charge Algorithm)]
Current Low = 7500
Current Med = 7500
Current High = 4500
Voltage = 4200
[Standard Temp High Charging(Advanced Charge Algorithm)]
Current Low = 7500
Current Med = 7500
Current High = 4500
Voltage = 4200
[High Temp Charging(Advanced Charge Algorithm)]
Current Low = 7500
Current Med = 7500
Current High = 4500
Voltage = 4200
[Rec Temp Charging(Advanced Charge Algorithm)]
Current Low = 7500
Current Med = 7500
Current High = 4500
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Voltage = 4200
[Pre-Charging(Advanced Charge Algorithm)]
Current = 600
[Maintenance Charging(Advanced Charge Algorithm)]
Current = 0
[Voltage Range(Advanced Charge Algorithm)]
Precharge Start Voltage = 2400
Charging Voltage Low = 2500
Charging Voltage Med = 3600
Charging Voltage High = 4000
Charging Voltage Hysteresis = 3
[SoC Range(Advanced Charge Algorithm)]
Charging SoC Med = 50
Charging SoC High = 70
Charging SoC Hysteresis = 1
[Degrade Mode 1(Advanced Charge Algorithm)]
Cycle Threshold = 50
SOH Threshold = 95
Runtime Threshold = 8760
Voltage Degradation = 10
Current Degradation = 10
[Degrade Mode 2(Advanced Charge Algorithm)]
Cycle Threshold = 150
SOH Threshold = 80
Runtime Threshold = 17520
Voltage Degradation = 40
Current Degradation = 20
[Degrade Mode 3(Advanced Charge Algorithm)]
Cycle Threshold = 350
SOH Threshold = 60
Runtime Threshold = 26280
Voltage Degradation = 70
Current Degradation = 40
[Degrade Mode(Advanced Charge Algorithm)]
Cycle Count Start Runtime = 1
Runtime Update Interval = 10
Runtime Degrade = 1360
[CS Degrade(Advanced Charge Algorithm)]
Temperature Threshold = 50.0
Voltage Threshold = 4200
Time Interval = 300
Delta Voltage = 25
Min CV = 3000
[Termination Config(Advanced Charge Algorithm)]
Charge Term Taper Current = 518
Charge Term Voltage Offset = 25
Charge Term Charging Voltage = 4200
[Charging Rate of Change(Advanced Charge Algorithm)]
Current Rate = 10
Voltage Rate = 10
[Charge Loss Compensation(Advanced Charge Algorithm)]
CCC Current Threshold = 3520
CCC Voltage Threshold = 4200
[IR Correction(Advanced Charge Algorithm)]
Averaging Interval = 12
[Cell Balancing Config(Advanced Charge Algorithm)]
Bal Time/mAh Cell 1 = 26
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Bal Time/mAh Cell 2-4 = 27
Min Start Balance Delta = 3
Relax Balance Interval = 18000
Min Rsoc for Balancing = 80
Start Rsoc for Bal in Sleep = 95
End Rsoc for Bal in Sleep = 60
Start Time for Bal in Sleep = 100
[Elevated Degrade(Advanced Charge Algorithm)]
ERM Reset RSoC Threshold = 85
ERM Reset Voltage Threshold = 3700
ERM RSoC Threshold = 90
ERM Voltage Threshold = 4000
ERM Time Threshold = 10000
ERETM RSoC Threshold = 90
ERETM Voltage Threshold = 4200
ERETM Temperature Threshold = 39.1
ERETM Temperature Max Threshold = 49.1
ERETM Time Threshold = 10000
ERETM Charging Voltage = 3900
Accumulated ERM Time = 0
Accumulated ERETM Time = 0
ERETM Status = 00

[Power(Power)]
Valid Update Voltage = 3500
[Shutdown(Power)]
Shutdown Voltage = 1750
Shutdown Time = 10
IO Shutdown Delay = 1
IO Shutdown Timeout = 8
PF Shutdown Voltage = 1750
PF Shutdown Time = 10
PS Shutdown Voltage = 2500
PS NoLoadResCap Threshold = 0
Charger Present Threshold = 3000
[Sleep(Power)]
Sleep Current = 10
Bus Timeout = 5
Voltage Time = 5
Current Time = 20
Wake Comparator = 00
[Ship(Power)]
FET Off Time = 10
Delay = 20
Auto Ship Time = 1441
[Power Off(Power)]
Timeout = 30
[Manual FET Control(Power)]
MFC Delay = 60
[IATA(Power)]
IATA Config = 03
IATA Delay Time = 10
IATA RSOC Threshold = 30
IATA DeltaV Threshold = 50
IATA Delta RSOC = 3
IATA Wake AbsRsoc = 10
IATA Min Temperature = 10.0
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IATA Max Temperature = 40.0
IATA Min Voltage = 3000
IATA Max Voltage = 3600
[IATA STORE(Power)]
IATA RM mAh = 0
IATA RM cWh = 0
IATA FCC mAh = 0
IATA FCC cWh = 0
IATA Flag = 00
[Unintended Wakeup(Power)]
Delay = 2
Count = 3

[LED Config(LED Support)]
LED Flash Period = 512
LED Blink Period = 1024
LED Delay = 100
LED Hold Time = 4
LED FC Time = 60
CHG Flash Alarm = 10
CHG Thresh 1 = 0
CHG Thresh 2 = 20
CHG Thresh 3 = 40
CHG Thresh 4 = 60
CHG Thresh 5 = 80
DSG Flash Alarm = 10
DSG Thresh 1 = 0
DSG Thresh 2 = 20
DSG Thresh 3 = 40
DSG Thresh 4 = 60
DSG Thresh 5 = 80

[Manufacturer Data(System Data)]
Manufacturer Info A Length = 32
Manufacturer Info Block A01 = 61
Manufacturer Info Block A02 = 62
Manufacturer Info Block A03 = 63
Manufacturer Info Block A04 = 64
Manufacturer Info Block A05 = 65
Manufacturer Info Block A06 = 66
Manufacturer Info Block A07 = 67
Manufacturer Info Block A08 = 68
Manufacturer Info Block A09 = 69
Manufacturer Info Block A10 = 6a
Manufacturer Info Block A11 = 6b
Manufacturer Info Block A12 = 6c
Manufacturer Info Block A13 = 6d
Manufacturer Info Block A14 = 6e
Manufacturer Info Block A15 = 6f
Manufacturer Info Block A16 = 70
Manufacturer Info Block A17 = 71
Manufacturer Info Block A18 = 72
Manufacturer Info Block A19 = 73
Manufacturer Info Block A20 = 74
Manufacturer Info Block A21 = 75
Manufacturer Info Block A22 = 76
Manufacturer Info Block A23 = 77
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Manufacturer Info Block A24 = 7a
Manufacturer Info Block A25 = 78
Manufacturer Info Block A26 = 79
Manufacturer Info Block A27 = 30
Manufacturer Info Block A28 = 31
Manufacturer Info Block A29 = 32
Manufacturer Info Block A30 = 33
Manufacturer Info Block A31 = 34
Manufacturer Info Block A32 = 35
[Manufacturer Info B(System Data)]
Manufacturer Info Block B01 = 01
Manufacturer Info Block B02 = 23
Manufacturer Info Block B03 = 45
Manufacturer Info Block B04 = 67
[Integrity(System Data)]
Static DF Signature = 0000
Static Chem DF Signature = 5903
All DF Signature = 0000

[Data(SBS Configuration)]
Remaining AH Cap. Alarm = 300
Remaining WH Cap. Alarm = 432
Remaining Time Alarm = 10
Initial Battery Mode = 0000
Specification Information = 0031
Manufacture Date = 2020-9-22
Serial Number = 0005
Manufacturer Name = Navitas Systems
Device Name = bq40z50-R3
Device Chemistry = LION

[Voltage(Lifetimes)]
Cell 1 Max Voltage = 4198
Cell 2 Max Voltage = 4158
Cell 3 Max Voltage = 4160
Cell 4 Max Voltage = 4186
Cell 1 Min Voltage = 3649
Cell 2 Min Voltage = 3783
Cell 3 Min Voltage = 3782
Cell 4 Min Voltage = 3713
Max Delta Cell Voltage = 172
[Current(Lifetimes)]
Max Charge Current = 3147
Max Discharge Current = -5013
Max Avg Dsg Current = -5011
Max Avg Dsg Power = -7642
[Temperature(Lifetimes)]
Max Temp Cell = 28
Min Temp Cell = 19
Max Delta Cell Temp = 5
Max Temp Int Sensor = 36
Min Temp Int Sensor = 16
Max Temp Fet = 36
[Safety Events(Lifetimes)]
No Of COV Events = 0
Last COV Event = 0
No Of CUV Events = 0
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Last CUV Event = 0
No Of OCD1 Events = 0
Last OCD1 Event = 0
No Of OCD2 Events = 0
Last OCD2 Event = 0
No Of OCC1 Events = 0
Last OCC1 Event = 0
No Of OCC2 Events = 0
Last OCC2 Event = 0
No Of AOLD Events = 0
Last AOLD Event = 0
No Of ASCD Events = 0
Last ASCD Event = 0
No Of ASCC Events = 0
Last ASCC Event = 0
No Of OTC Events = 0
Last OTC Event = 0
No Of OTD Events = 0
Last OTD Event = 0
No Of OTF Events = 0
Last OTF Event = 0
[Charging Events(Lifetimes)]
No Valid Charge Term = 0
Last Valid Charge Term = 0
[Gauging Events(Lifetimes)]
No Of Qmax Updates = 0
Last Qmax Update = 0
No Of Ra Updates = 0
Last Ra Update = 0
No Of Ra Disable = 2
Last Ra Disable = 1
[Power Events(Lifetimes)]
No Of Shutdowns = 0
[Cell Balancing(Lifetimes)]
Cb Time Cell 1 = 0
Cb Time Cell 2 = 0
Cb Time Cell 3 = 0
Cb Time Cell 4 = 0
[Time(Lifetimes)]
Total Fw Runtime = 181
Time Spent In UT RSOC A = 0
Time Spent In UT RSOC B = 0
Time Spent In UT RSOC C = 0
Time Spent In UT RSOC D = 0
Time Spent In UT RSOC E = 0
Time Spent In UT RSOC F = 0
Time Spent In UT RSOC G = 0
Time Spent In UT RSOC H = 0
Time Spent In LT RSOC A = 0
Time Spent In LT RSOC B = 0
Time Spent In LT RSOC C = 0
Time Spent In LT RSOC D = 0
Time Spent In LT RSOC E = 0
Time Spent In LT RSOC F = 0
Time Spent In LT RSOC G = 0
Time Spent In LT RSOC H = 0
Time Spent In STL RSOC A = 4
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Time Spent In STL RSOC B = 116
Time Spent In STL RSOC C = 0
Time Spent In STL RSOC D = 21
Time Spent In STL RSOC E = 0
Time Spent In STL RSOC F = 0
Time Spent In STL RSOC G = 0
Time Spent In STL RSOC H = 0
Time Spent In RT RSOC A = 1
Time Spent In RT RSOC B = 17
Time Spent In RT RSOC C = 0
Time Spent In RT RSOC D = 21
Time Spent In RT RSOC E = 0
Time Spent In RT RSOC F = 0
Time Spent In RT RSOC G = 0
Time Spent In RT RSOC H = 0
Time Spent In STH RSOC A = 0
Time Spent In STH RSOC B = 0
Time Spent In STH RSOC C = 0
Time Spent In STH RSOC D = 0
Time Spent In STH RSOC E = 0
Time Spent In STH RSOC F = 0
Time Spent In STH RSOC G = 0
Time Spent In STH RSOC H = 0
Time Spent In HT RSOC A = 0
Time Spent In HT RSOC B = 0
Time Spent In HT RSOC C = 0
Time Spent In HT RSOC D = 0
Time Spent In HT RSOC E = 0
Time Spent In HT RSOC F = 0
Time Spent In HT RSOC G = 0
Time Spent In HT RSOC H = 0
Time Spent In OT RSOC A = 0
Time Spent In OT RSOC B = 0
Time Spent In OT RSOC C = 0
Time Spent In OT RSOC D = 0
Time Spent In OT RSOC E = 0
Time Spent In OT RSOC F = 0
Time Spent In OT RSOC G = 0
Time Spent In OT RSOC H = 0

[CUV(Protections)]
Threshold = 2500
Delay = 2
Recovery = 2750
[CUVC(Protections)]
Threshold = 2750
Delay = 2
Recovery = 3000
[COV(Protections)]
Threshold Low Temp = 4250
Threshold Standard Temp Low = 4250
Threshold Standard Temp High = 4250
Threshold High Temp = 4250
Threshold Rec Temp = 4250
Delay = 2
Recovery Low Temp = 4000
Recovery Standard Temp Low = 4000
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Recovery Standard Temp High = 4000
Recovery High Temp = 4000
Recovery Rec Temp = 4000
Latch Limit = 0
Counter Dec Delay = 10
Reset = 15
[OCC1(Protections)]
Threshold = 7650
Delay = 6
[OCC2(Protections)]
Threshold = 10000
Delay = 1
[OCC(Protections)]
Recovery Threshold = -200
Recovery Delay = 5
[OCD1(Protections)]
Threshold = -11000
Delay = 3
[OCD2(Protections)]
Threshold = -11500
Delay = 1
[OCD(Protections)]
Recovery Threshold = 200
Recovery Delay = 5
Latch Limit = 0
Counter Dec Delay = 10
Reset = 15
[AOLD(Protections)]
Latch Limit = 2
Counter Dec Delay = 10
Recovery = 5
Reset = 15
Threshold = c6
[ASCC(Protections)]
Latch Limit = 2
Counter Dec Delay = 10
Recovery = 5
Reset = 15
Threshold = 30
[ASCD(Protections)]
Latch Limit = 2
Counter Dec Delay = 10
Recovery = 5
Reset = 15
Threshold 1 = 74
Threshold 2 = f1
[OTC(Protections)]
Threshold = 55.0
Delay = 2
Recovery = 50.0
[OTD(Protections)]
Threshold = 60.0
Delay = 2
Recovery = 55.0
[OTF(Protections)]
Threshold = 80.0
Delay = 2
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Recovery = 65.0
[UTC(Protections)]
Threshold = 0.0
Delay = 2
Recovery = 5.0
[UTD(Protections)]
Threshold = -33.0
Delay = 5
Recovery = -30.0
[HWD(Protections)]
Delay = 10
[PTO(Protections)]
Charge Threshold = 2000
Suspend Threshold = 1800
Delay = 1800
Reset = 2
[CTO(Protections)]
Charge Threshold = 7500
Suspend Threshold = 5500
Delay = 9000
Reset = 2
[OC(Protections)]
Threshold = 300
Recovery = 2
RSOC Recovery = 90
[CHGV(Protections)]
Threshold = 500
Delay = 65
Recovery = -500
[CHGC(Protections)]
Threshold = 500
Delay = 65
Recovery Threshold = 100
Recovery Delay = 2
[PCHGC(Protections)]
Threshold = 50
Delay = 2
Recovery Threshold = -50
Recovery Delay = 2

[SUV(Permanent Fail)]
Threshold = 2200
Delay = 5
[SOV(Permanent Fail)]
Threshold = 4500
Delay = 5
[SOCC(Permanent Fail)]
Threshold = 10000
Delay = 5
[SOCD(Permanent Fail)]
Threshold = -10000
Delay = 5
[SOT(Permanent Fail)]
Threshold = 93.0
Delay = 5
[SOTF(Permanent Fail)]
Threshold = 100.0
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Delay = 5
[Open Thermistor(Permanent Fail)]
Threshold = -50.0
Delay = 5
Fet Delta = 20.0
Cell Delta = 20.0
[QIM(Permanent Fail)]
Delta Threshold = 15.0
Delay = 2
[CB(Permanent Fail)]
Max Threshold = 240
Delta Threshold = 40
Delay = 2
[VIMR(Permanent Fail)]
Check Voltage = 3500
Check Current = 10
Delta Threshold = 500
Delta Delay = 5
Duration = 100
[VIMA(Permanent Fail)]
Check Voltage = 3700
Check Current = 50
Delta Threshold = 200
Delay = 5
[IMP(Permanent Fail)]
Delta Threshold = 300
Max Threshold = 400
Ra Update Counts = 2
[CD(Permanent Fail)]
Threshold = 0
Delay = 2
[CFET(Permanent Fail)]
OFF Threshold = 5
OFF Delay = 5
[DFET(Permanent Fail)]
OFF Threshold = -5
OFF Delay = 5
[FUSE(Permanent Fail)]
Threshold = 5
Delay = 5
[AFER(Permanent Fail)]
Threshold = 100
Delay Period = 2
Compare Period = 5
[AFEC(Permanent Fail)]
Threshold = 100
Delay Period = 5
[2LVL(Permanent Fail)]
Delay = 5

[Device Status Data(PF Status)]
Safety Alert A = 03
Safety Status A = 03
Safety Alert B = 00
Safety Status B = 00
Safety Alert C = 00
Safety Status C = 00
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Safety Alert D = 00
Safety Status D = 00
PF Alert A = 00
PF Status A = 00
PF Alert B = 00
PF Status B = 08
PF Alert C = 00
PF Status C = 00
PF Alert D = 00
PF Status D = 00
Fuse Flag = 3672
Operation Status A = 7d01
Operation Status B = 0000
Temp Range = 08
Charging Status A = 01
Charging Status B = 00
Gauging Status = 50
IT Status = 0014
[Device Voltage Data(PF Status)]
Cell 1 Voltage = 3799
Cell 2 Voltage = 3798
Cell 3 Voltage = 1150
Cell 4 Voltage = 3797
Battery Direct Voltage = 12571
Pack Voltage = 11
[Device Current Data(PF Status)]
Current = -3
[Device Temperature Data(PF Status)]
Internal Temperature = 27.0
External 1 Temperature = 24.4
External 2 Temperature = 24.0
External 3 Temperature = 24.3
External 4 Temperature = 24.3
[Device Gauging Data(PF Status)]
Cell 1 Dod0 = 9408
Cell 2 Dod0 = 9408
Cell 3 Dod0 = 9408
Cell 4 Dod0 = 9472
Passed Charge = 0
[AFE Regs(PF Status)]
AFE Interrupt Status = 00
AFE FET Status = 20
AFE RXIN = 00
AFE Latch Status = 00
AFE Interrupt Enable = 1e
AFE FET Control = c0
AFE RXIEN = 10
AFE RLOUT = 73
AFE RHOUT = 16
AFE RHINT = 81
AFE Cell Balance = 00
AFE AD/CC Control = 0d
AFE ADC Mux = e0
AFE LED Output = 00
AFE State Control = 40
AFE LED/Wake Control = 02
AFE Protection Control = 71

AFE OCD = c6
AFE SCC = 30
AFE SCD1 = 74
AFE SCD2 = f1

[Safety Status(Black Box)]
1st Status Status A = 00
1st Status Status B = 00
1st Safety Status C = 00
1st Safety Status D = 00
1st Time to Next Event = 0
2nd Status Status A = 00
2nd Status Status B = 00
2nd Safety Status C = 00
2nd Safety Status D = 00
2nd Time to Next Event = 0
3rd Status Status A = 00
3rd Status Status B = 00
3rd Safety Status C = 00
3rd Safety Status D = 00
3rd Time to Next Event = 0
[PF Status(Black Box)]
1st PF Status A = 00
1st PF Status B = 00
1st PF Status C = 00
1st PF Status D = 00
1st Time to Next Event = 0
2nd PF Status A = 00
2nd PF Status B = 00
2nd PF Status C = 00
2nd PF Status D = 00
2nd Time to Next Event = 0
3rd PF Status A = 00
3rd PF Status B = 00
3rd PF Status C = 00
3rd PF Status D = 00
3rd Time to Next Event = 0

[Current Thresholds(Gas Gauging)]
Dsg Current Threshold = 100
Chg Current Threshold = 100
Quit Current = 25
Dsg Relax Time = 60
Chg Relax Time = 60
[Design(Gas Gauging)]
Design Capacity mAh = 10350
Design Capacity cWh = 15318
Design Voltage = 14800
[Cycle(Gas Gauging)]
Cycle Count Percentage = 90
[FD(Gas Gauging)]
Set Voltage Threshold = 3000
Clear Voltage Threshold = 3100
Set % RSOC Threshold = 0
Clear % RSOC Threshold = 5
[FC(Gas Gauging)]
Set Voltage Threshold = 4200

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Clear Voltage Threshold = 4100
Set % RSOC Threshold = 100
Clear % RSOC Threshold = 95
[TD(Gas Gauging)]
Set Voltage Threshold = 2750
Clear Voltage Threshold = 3000
Set % RSOC Threshold = 6
Clear % RSOC Threshold = 8
[TC(Gas Gauging)]
Set Voltage Threshold = 4200
Clear Voltage Threshold = 4100
Set % RSOC Threshold = 100
Clear % RSOC Threshold = 95
[State(Gas Gauging)]
Cycle Count = 5
Qmax Cell 1 = 10786
Qmax Cell 2 = 10789
Qmax Cell 3 = 10779
Qmax Cell 4 = 10784
Qmax Pack = 10779
Qmax Cycle Count = 5
Update Status = 0e
Cell 1 Chg Voltage at EoC = 4219
Cell 2 Chg Voltage at EoC = 4218
Cell 3 Chg Voltage at EoC = 4216
Cell 4 Chg Voltage at EoC = 4216
Current at EoC = 509
Avg I Last Run = -832
Avg P Last Run = -1245
Delta Voltage = 33
Temp k = 10.00
Temp a = 18000
Max Avg I Last Run = -4311
Max Avg P Last Run = -6860
[Turbo Cfg(Gas Gauging)]
Min System Voltage = 9000
Ten Second Max C Rate = -2.0
Ten Millisecond Max C Rate = -4.0
High Frequency Resistance = 0
Reserve Energy % = 0
Turbo Adjustment Factor = 1.00
[IT Cfg(Gas Gauging)]
Load Select = 7
Fast Scale Load Select = 3
Load Mode = 0
User Rate-mA = 0
User Rate-cW = 0
Reserve Cap-mAh = 0
Reserve Cap-cWh = 0
Predict Ambient Time = 2000
Design Resistance = 37
Pack Resistance = 0
System Resistance = 0
Ra Filter = 80.0
Ra Max Delta = 15
Reference Grid = 4
Resistance Parameter Filter = 65142
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Near EDV Ra Param Filter = 59220
Max Current Change % = 10
Resistance Update Voltage = 50
Qmax Delta = 5
Qmax Upper Bound = 130
Term Voltage = 10000
Term V Hold Time = 1
Term Voltage Delta = 300
Term Min Cell V = 2600
Max Simulation Iterations = 30
Simulation Near Term Delta = 250
Fast Scale Start SOC = 10
Min Delta Voltage = 0
Max Delta Voltage = 200
DeltaV Max Voltage Delta = 10
[Smoothing(Gas Gauging)]
Smooth Relax Time = 1000
Term Smooth Start Cell V Delta = 150
Term Smooth Final Cell V Delta = 100
Term Smooth Time = 20
[Condition Flag(Gas Gauging)]
Max Error Limit = 100
[Max Error(Gas Gauging)]
Time Cycle Equivalent = 24
Cycle Delta = 0.05
[SoH(Gas Gauging)]
SoH Load Rate = 5.0

[R_a0(Ra Table)]
Cell0 R_a flag = 0055
Cell0 R_a 0 = 73
Cell0 R_a 1 = 36
Cell0 R_a 2 = 40
Cell0 R_a 3 = 47
Cell0 R_a 4 = 43
Cell0 R_a 5 = 38
Cell0 R_a 6 = 40
Cell0 R_a 7 = 39
Cell0 R_a 8 = 41
Cell0 R_a 9 = 43
Cell0 R_a 10 = 43
Cell0 R_a 11 = 48
Cell0 R_a 12 = 75
Cell0 R_a 13 = 168
Cell0 R_a 14 = 3308
[R_a1(Ra Table)]
Cell1 R_a flag = 0055
Cell1 R_a 0 = 67
Cell1 R_a 1 = 33
Cell1 R_a 2 = 35
Cell1 R_a 3 = 45
Cell1 R_a 4 = 42
Cell1 R_a 5 = 35
Cell1 R_a 6 = 38
Cell1 R_a 7 = 35
Cell1 R_a 8 = 35
Cell1 R_a 9 = 39
```

```
Cell1 R_a 10 = 40
Cell1 R_a 11 = 44
Cell1 R_a 12 = 62
Cell1 R_a 13 = 150
Cell1 R_a 14 = 2908
[R_a2(Ra Table)]
Cell2 R_a flag = 0055
Cell2 R_a 0 = 67
Cell2 R_a 1 = 33
Cell2 R_a 2 = 36
Cell2 R_a 3 = 46
Cell2 R_a 4 = 40
Cell2 R_a 5 = 39
Cell2 R_a 6 = 40
Cell2 R_a 7 = 37
Cell2 R_a 8 = 39
Cell2 R_a 9 = 41
Cell2 R_a 10 = 42
Cell2 R_a 11 = 47
Cell2 R_a 12 = 68
Cell2 R_a 13 = 152
Cell2 R_a 14 = 2974
[R_a3(Ra Table)]
Cell3 R_a flag = 0055
Cell3 R_a 0 = 69
Cell3 R_a 1 = 34
Cell3 R_a 2 = 39
Cell3 R_a 3 = 48
Cell3 R_a 4 = 35
Cell3 R_a 5 = 33
Cell3 R_a 6 = 31
Cell3 R_a 7 = 32
Cell3 R_a 8 = 33
Cell3 R_a 9 = 35
Cell3 R_a 10 = 37
Cell3 R_a 11 = 42
Cell3 R_a 12 = 66
Cell3 R_a 13 = 144
Cell3 R_a 14 = 2847
[R_a0x(Ra Table)]
xCell0 R_a flag = 0000
xCell0 R_a 0 = 73
xCell0 R_a 1 = 36
xCell0 R_a 2 = 40
xCell0 R_a 3 = 46
xCell0 R_a 4 = 42
xCell0 R_a 5 = 37
xCell0 R_a 6 = 39
xCell0 R_a 7 = 38
xCell0 R_a 8 = 40
xCell0 R_a 9 = 42
xCell0 R_a 10 = 42
xCell0 R_a 11 = 47
xCell0 R_a 12 = 73
xCell0 R_a 13 = 164
xCell0 R_a 14 = 3238
[R_a1x(Ra Table)]
```

```
xCell1 R_a flag = 0000
xCell1 R_a 0 = 67
xCell1 R_a 1 = 33
xCell1 R_a 2 = 35
xCell1 R_a 3 = 42
xCell1 R_a 4 = 39
xCell1 R_a 5 = 33
xCell1 R_a 6 = 35
xCell1 R_a 7 = 33
xCell1 R_a 8 = 33
xCell1 R_a 9 = 36
xCell1 R_a 10 = 37
xCell1 R_a 11 = 41
xCell1 R_a 12 = 58
xCell1 R_a 13 = 140
xCell1 R_a 14 = 2714
[R_a2x(Ra Table)]
xCell2 R_a flag = 0000
xCell2 R_a 0 = 67
xCell2 R_a 1 = 33
xCell2 R_a 2 = 36
xCell2 R_a 3 = 43
xCell2 R_a 4 = 37
xCell2 R_a 5 = 36
xCell2 R_a 6 = 37
xCell2 R_a 7 = 35
xCell2 R_a 8 = 36
xCell2 R_a 9 = 38
xCell2 R_a 10 = 39
xCell2 R_a 11 = 44
xCell2 R_a 12 = 64
xCell2 R_a 13 = 142
xCell2 R_a 14 = 2780
[R_a3x(Ra Table)]
xCell3 R_a flag = 0000
xCell3 R_a 0 = 69
xCell3 R_a 1 = 34
xCell3 R_a 2 = 39
xCell3 R_a 3 = 48
xCell3 R_a 4 = 41
xCell3 R_a 5 = 39
xCell3 R_a 6 = 36
xCell3 R_a 7 = 37
xCell3 R_a 8 = 39
xCell3 R_a 9 = 41
xCell3 R_a 10 = 43
xCell3 R_a 11 = 49
xCell3 R_a 12 = 77
xCell3 R_a 13 = 169
xCell3 R_a 14 = 3335
```