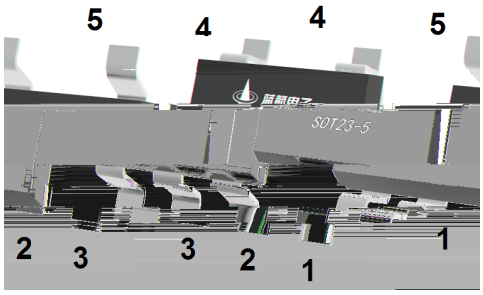
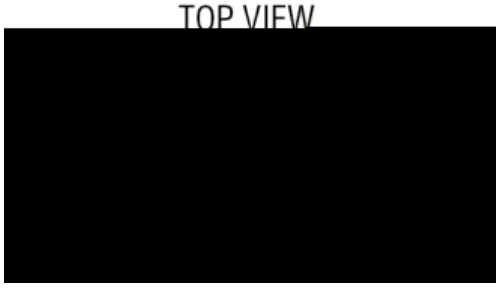
Rev.C Dec.-2025

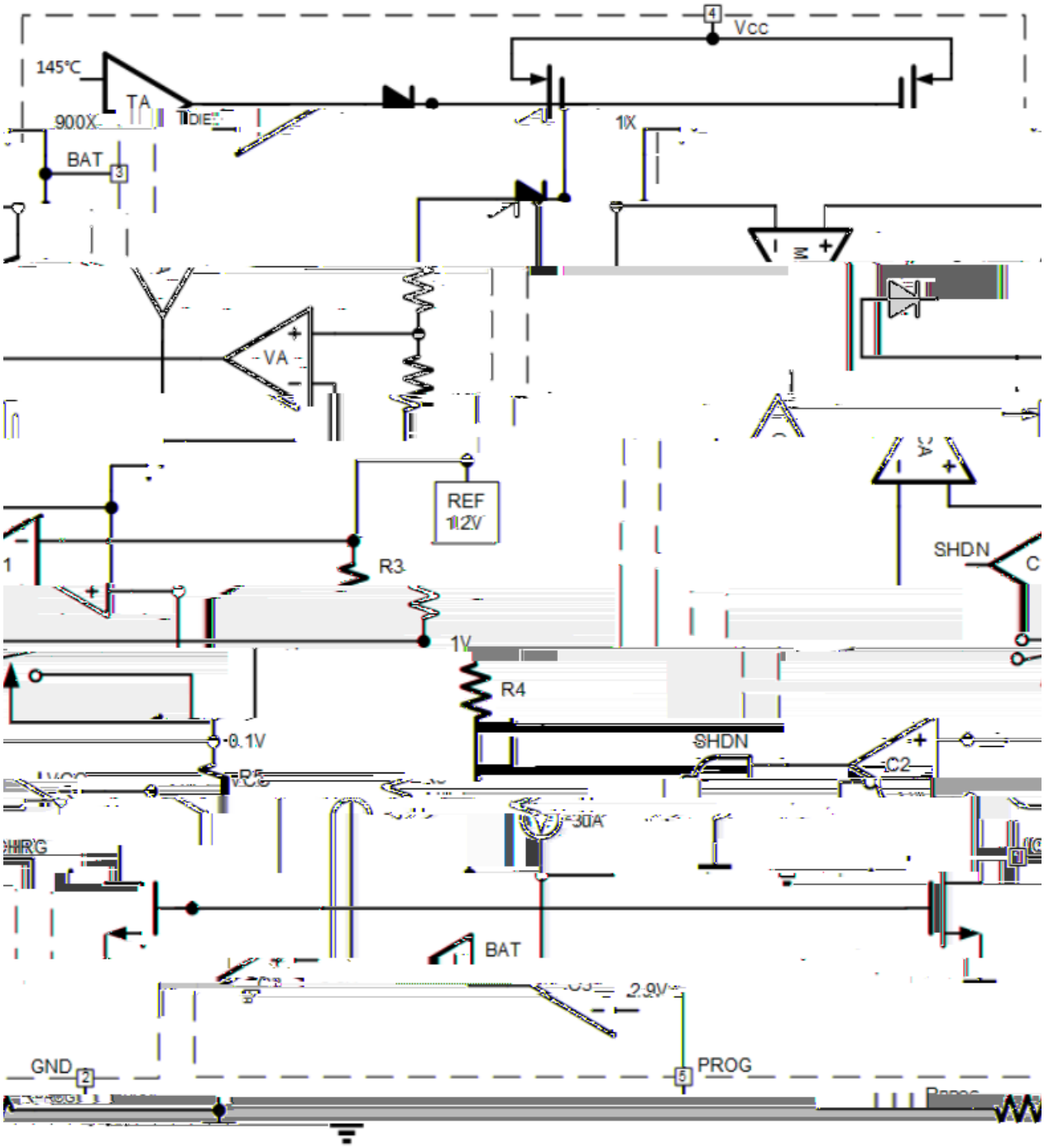




1	CHRG	
2	GND	
3	BAT	
4	VCC	
5	PROG	

Input Pin Voltage	V_{VCC}	-0.3~36	V
BAT Pin Voltage	V_{BAT}	-4.2~18	
Other Pin Voltage	V_{PROG}	-0.3~5.5	
CHRG Pin Voltage	V_{CHRG}	-0.3~13	
Storage Temperature	T_{stg}	-65~+150	
Junction Temperature	T_J	150	
Operating Ambient Temperature Range	T_{OP}	-40~+85	
Lead Temperature (Soldering, 10s)	T_{solder}	260	
Power onsumption	P_D	0.3	W
Junction-to-Ambient	$R_{\theta JA}$	250	/W
ESD	HBM	2000	V
	CDM	1000	V

Input Voltage Range	V_{CC}
Quiescent Supply Current	I_Q
Regulated Output (Float)Voltage	V_{FLOAT}
BAT Pin Current	I_{BAT}
Trickle Charge Current	I_{TRIKL}
Trickle Charge Threshold Voltage	V_{TRIKL}
Trickle Charge Hysteresis Voltage	V_{TRHYS}
VCC Undervoltage Lockout Threshold	V_{UV}
VCC Undervoltage Lockout Hysteresis	V_{UVHYS}
VCC-VBAT Lockout Threshold Voltage	V_{ASD}
C/10 Termination Current Threshold	I_{TERM}
PROG Pin Voltage	V_{PROG}
CHRG Pin Output Low Voltage	V_{CHRG}
Recharge Battery Threshold Voltage	ş


Vcc
145°C
TA
900X
DIE
1X
BAT
VA
REF
1.2V
R3
1V
R4
SHDN
0.1V
C2
30A
BAT
2.9V
GND
PROG

BRCL4058PME-4.2 / PCB
600mA ±1% BRCL4058PME-4.2 P
MOSFET
BRCL4058PME-4.2 USB

VCC UVLO 1% PROG
BAT 2.5V
BRCL4058PME-4.2 1/10
BAT 2.5V BAT

1/10

PROG PROG 100mV tTERM

BRCL4058PME-4.2 55μA

C/10

BAT PROG 1/10

100mV 1.8ms t_{TERM}

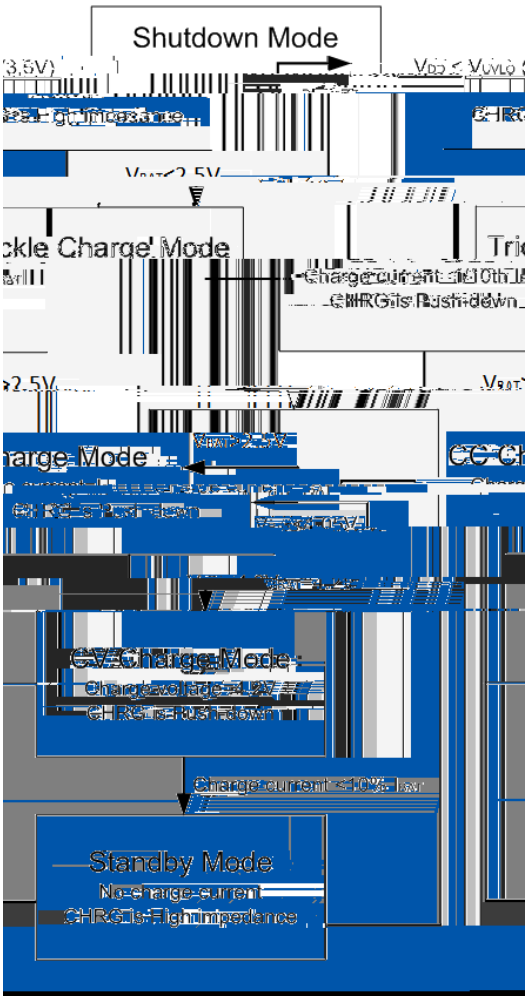
1/10 BRCL4058PME-4.2

BAT BAT

BRCL4058PME-4.2 BAT 4.05V

V_{RECHRG}

PROG



BRCL4058PME-4.2 CHRG BRCL4058PME-4.2
CHRG CHRG CHRG

PROG PROG

20k

PROG 100kHz

PROG CPROG RPROG

$$R_{PROG} \leq \frac{1}{2\pi \cdot 10^5 \cdot C_{PROG}}$$

BAT

PROG RC PROG

10k



PCB P_D

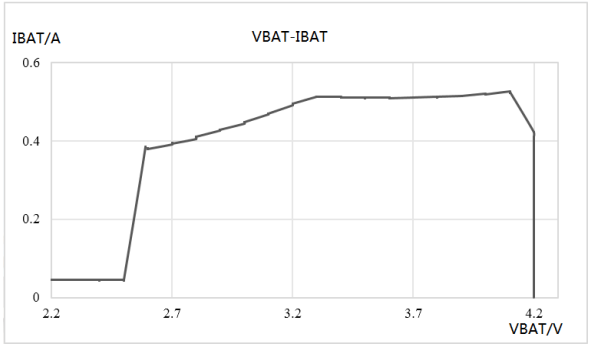
$T_J=P_D \times \theta_{JA} + T_A$

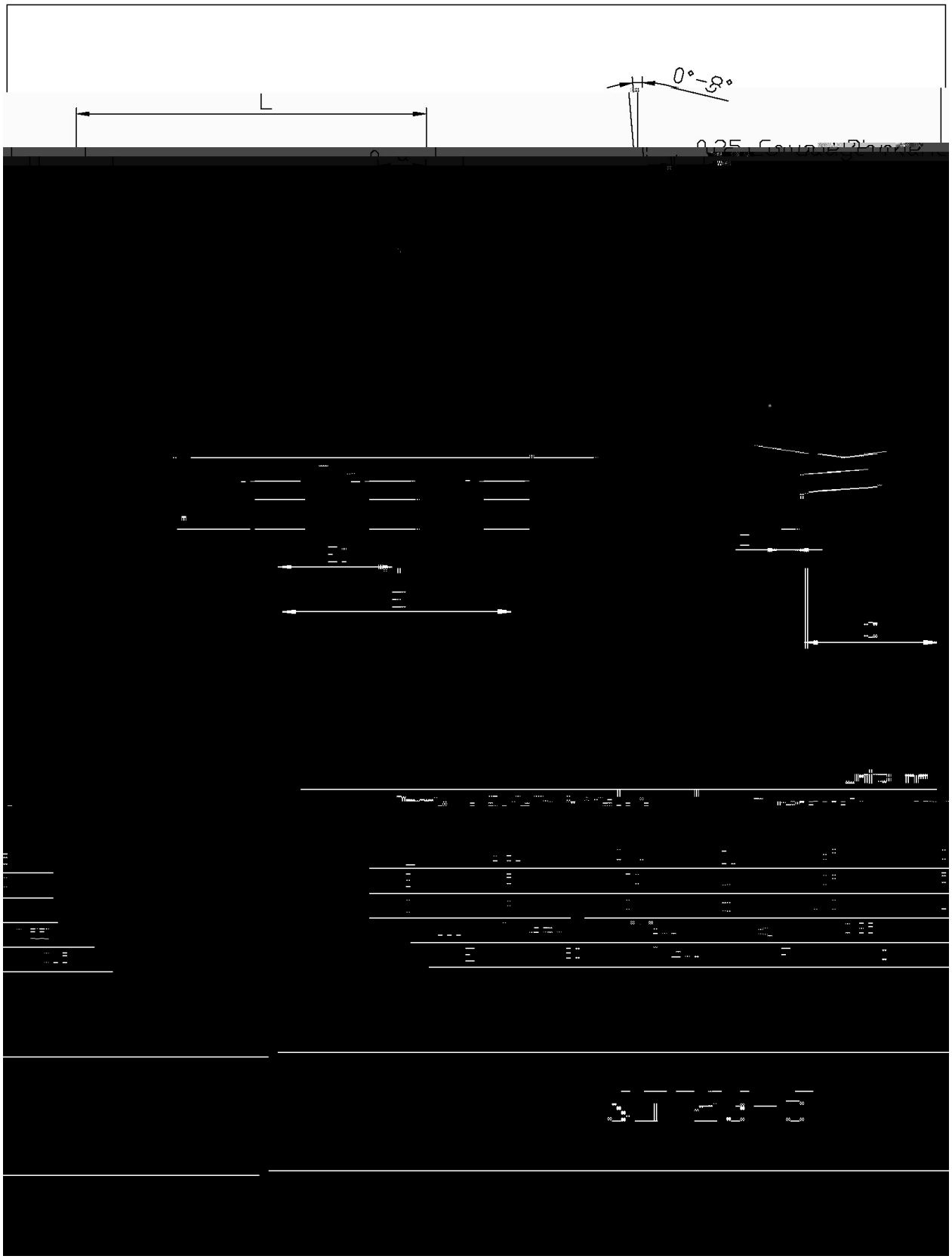
IC PD V_{IN}-V_{BAT} I_{CHG} :

$P_D = V_{IN}-V_{BAT} * I_{CHG}$

3.6V

4.0V 5%~10% PD




L
0°-8°

