

5.5V-100V Vin, 1.8A Peak Current Limit, High Efficiency Asynchronous Step-down DCDC Converter

MNK L

x F XST 8 _dcAP VT) □E

K OLBHG ABLMHKR

= C4) PVT d QTab Ua_aTeXdb aTeXX b Ph SXUaLh _PVT d QTab X dWT Rdaf ceTabX □
 ATeXX □) AT TPbTc PaZTc□
 ATeXX □) D_SPcT 01B DC4 < 0G8< D< A0C8< 6B Ua1BC BF 4= 51□
 ATeXX □) D_SPcT CPQT! □
 ATeXX □) D_SPcT 02: 06 4 8< 5 A< 0C8 =□
 ATeXX □) D_SPcT 34E8 4 A34A 8< 5 A< 0C8 =□
 ATeXX □) D_SPcT dWT 01B eP dTb U4= PSS cTbcXV XT b P S aT P cTS STbPaXcX b U aXcTa P I T TaSXSTb□

OB HK KEG HKF MHG

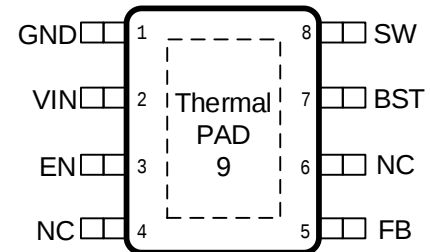
B2C 0 ! BC4A	CP_T ATT		! 0 !		4B

LHENM F BF NF K MEG L

eTa _TaPcXV dWT P XcT _TaPdaT d Tbb dWT XT cTS

E 8<	□		E
1BC	□		E
BF			E
1BC BF	□	□	E
4= !	□	%□	E
51	□	□	E
_TaPcXV dWT R cT _TaPdaT C9 "			2
Bc dPVT cT _TaPdaT CBC6	%		2

I EG HG B NK MHG



- (1) BcaTbbTb QTh S dWbT XcTS d STa0 Qb d cT < PgX d APcXV Ph RPdbT SteXT _Ta P T cSP PVT CW SteXT X cVdPaP dTSc Ua R cX ddbXT UXb ATR T STS _TaPcX 2 SXX b□
- (2) CVX PaP TcTaX P dWT aTcXP STbX eP dT P SPI T TaSXST X XbP TS XbXT dWT X Ua_a cTRcX □
- (3) CVT 8 XRdStb eTact _TaPdaT_a cTRcX c _a cTRc dWT SteXT SdaXV eTa PSR SXX b 9d R cX cT _TaPdaT f X TgRTTS 2 f VT eTact _TaPdaT_a cTRcX X PRXT 2 cXd db _TaPcX PQ eT dWT b TRXTS PgX d _TaPcXV dWT R cX cT _TaPdaT f X aTSdRT XTcX T□

I EG NG MHGL

6=3		6 a d S
E 8<	!	8_dcbd__h e dPVT 2 TRcP RP Qh_Pbb RP PRX aLh E 8<_X c 6=3_X□ PdW Lh E 8<_X c VXXV dT Rh Qh_Pbb RP PRX aP S 6=3 dbcQT Pb bW aPb bbXT□
4=	"	4 PQT_X c dWT aTVdPc af XWXcTa P_d d_RdaT cb daRT□ d QT f □ E c SXXPQT dWT R eTaTa.5 PcXVc T PQT dWT R eTaTa□
=2		= c2 TRcX □
51		8 eTaXVX_dc U dWT R _PaPc aCW dP_ UTgcTa P UTSCPRZ aTb Xc aSXSTaLh dWT dc dcc 6=3 bTb dWT dc dce dPVT CW SteXT aTVdPcTb 51 e dPVT c dWT XcTa P aTUt RT eP dT U □ E d h XP□
=2	%	= c2 TRcX □

1BC	&	f Tabd__h QPb UaVWVbST _ f Ta< B54CVPcT SaXTa2 TRcP □d5 RP_PRX a u 1 C X c BF X□1 dcaP RP PRX aX RVPa/TSf W BF e dPVT X f □
BF		ATVdPc abf XRVKV dc_dc□2 TRcBF c P TgcTa P _ f TaXSdRc a
CW	a P PS	

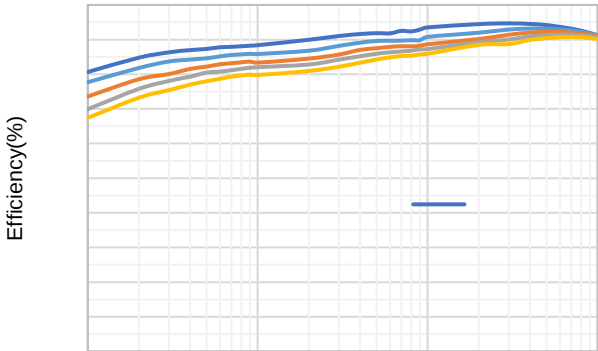
E MKB E A K M KELMB L

E⌘, E C9, 2m! 2 d, X eP dT X cTbcTS d STa! 2□

E⌘	_TaPcXVX_dce dPVT		□	E
E DE	E⌘ DE CWtW S	E⌘ aXV 7hbcTaTbX	□ ! □	E E
873=	BWtS f RdacT cLh E⌘ _X	4=, PS CY 2m! 2	□	d0 d0
8	dXbRT cRdaT cLh E⌘ _X	4= U PcXV PS bf XRVXV 1 CBF, E CY 2m! 2	" (% !	d0 d0
8	0RcST RdacT cLh E⌘_X	4= U PcXV PS E DC, !E	%	d0
A3B =N7	7 XWbXST < B54C aTbXcP RT	E1 cEbf, E	% (& &	
E A45	ATUaT RTe dPVT U51	CY! 2	□ & † †"	E

3TæTSU QT RWRVPaPRcTaKPeX

MRI B E A K M KBLMB L



5XdaT ! 4WRX Rh eb PS 2daaT c E dç ! E

5XdaT " 4WRX Rh eb PS 2daaT c E dç E

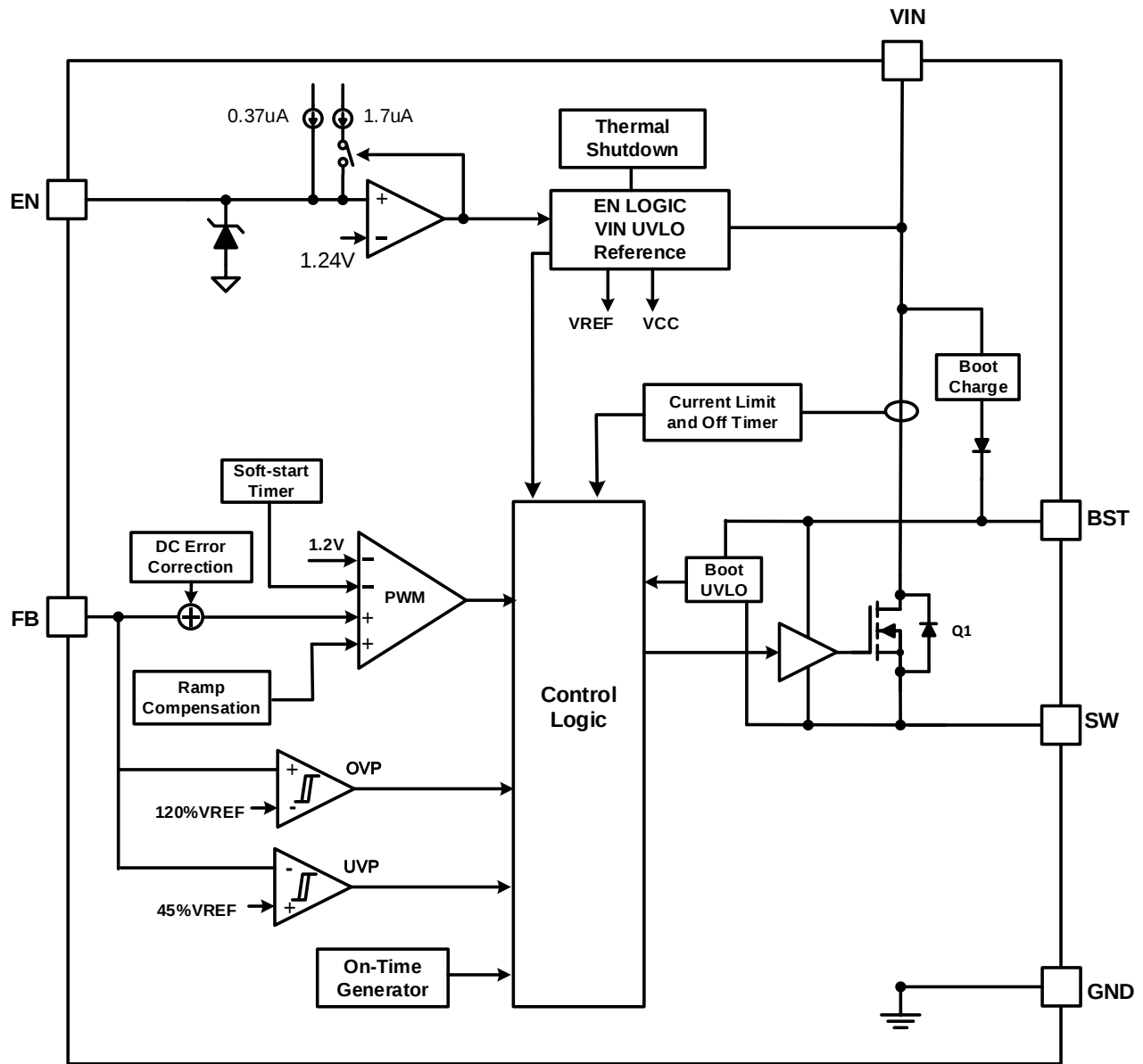
5XdaT PS ATVdPeX EX, E E dç ! E

5XdaT PS ATVdPeX EX,! E E dç E

5XdaT % XT ATVdPeX 8 dç 0

5XdaT & Bf XWV5aT dT Rh eb EX E dç ! E

NG MHG E EH D ? B K F



5X/daT ☐ 5d RcX P 1 RZ 3 ~~RVaP~~

HI K MHG

CW B2C! 0 ! X P E E X_dc 0 _TPZRdaT c X Xf W E_+%E BcT_S f 3232 R eTaTaf XWQdX
X(& WwWbST_f Ta< B54C&X_T T d R bP c cXTR ca c aTVdPcT dc_dce dPVT_a eSXV
TgRT T c XTP S PSaP bX caTb_ bT P SXcTa P Taa aP _XaXcTVaPcTSX_a eTdW XTP S PSaTVdPcX
SW B2C! 0 ! UPdaTb P XcTa P " b b UcbPacX Tc Pe X PaVT XadWRdaT cP S dc_dce dPVT eTabW c
SdaXVbPad_CW b f XWVUaT dT Rh X UjTS Pc"(: 7i CW STeRT Pb bd__ ab_a eSWRbPad_f XW_aT
QRbTS dc_dcR SXX

CW B2C! 0 ! VPb P STUPdc X_dc bPad_e dPVT U E C W D V D G H I

CW B2C! 0 ! aTvdPcTb dW XcTa P aTUt RT e dPVT Pc E CW dc_dce dPVT XbTcQh P aTbXc aSXXSta
dW dc_dc STc dW 51_X X aTR T STSc dbT c TaP RT aQTcTaaTbXc dDbT 4 dPcX " c RP RdPcT
aTbXcP RT UaTbXc aSXXSta C X_a eT TWRX Rh Pc XW PSb Pa/TaeP dT aTbXc d PaT aTR T STS 7 f TeTa
XdW eP dTb PaT c WXdW aTvdPc af XQT aT bdbRT_cQT c XT PWRXV dc_dce dPVT PRdaPR

"

f W aT

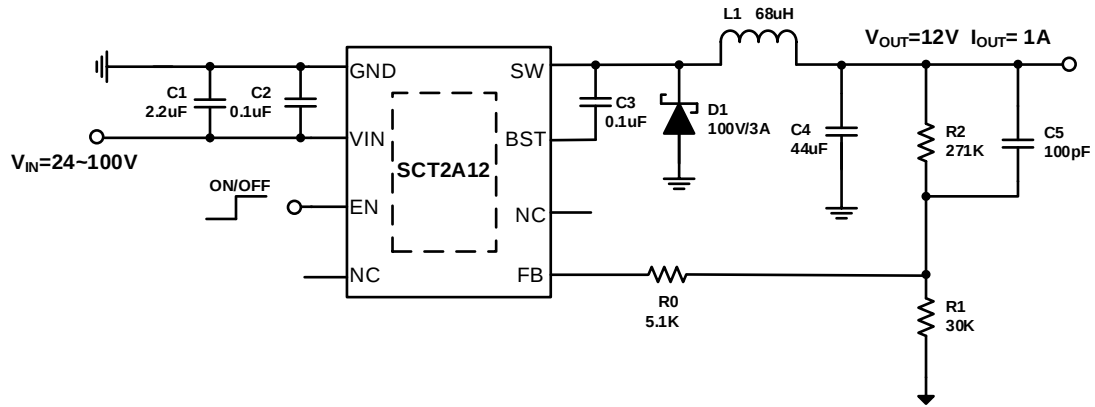
- X A51NC X dW aTbXc aR TRXVdW dc_dcc dW 51_X
- X A51N1 c X dW aTbXc aR TRXVdW 51_X c dW Va d S

CW B2C! 0 ! XcTvaPcTb P XcTa P b UbbPaRdXc dPc dP_b dW aTUt RT e dPVT U iTa e d c E
aTUt RT e dPVT X " b dW 4= _X X_d TSQT f "E bf XWKVbc _b P S dW XcTa P b UbbPaTbTb
CW b U

RdXR _PaTb dT 51 _Xe dPVT c dT XcTa P aUtat RT e dPVT F W 51 e dPVT TgRTTSb ! UXcTa P
E aUtat RT e dPVT dT WwWbST < B54C da b Wc Pe S dc dce dPVT R cXdTc XRaTpbT F W dT 51
_Xe dPVT UP b QT f U dT E aUtat RT e dPVT dT WwWbST < B54C RP da PVPX

CW B2Cl 0 ! _a cTRb dT STeRT La dT SP PVT SdaXV TgRTbbST WPCP S_f TaSxbXPcX R SXX b RT
dT Yl R cT _TaPdaT TgRTTSb 2 dT XcTa P dTa P bT b abc _b _f Ta < B54Cb bf XRVXV F W dT
Yl R cT _TaPdaT UP b QT f ! 2 dT STeRT aTbcPab f XWXcTa P b l b cPac_VPbT

I I EB MBHG EG HKF MBHG



8_dcE dPVT	E = a P ! E c E
dc_dcE dPVT	! E
<PgX d dc_dc2 dæT c	0
Bf XWV 5aT dT Rn	"(: 7i
dc_dce dPVT aX T TPZc TPZ	E
CaP bX cATb bT 0 c & 0 PSbcT	E dc, % E

CWT dc_dce dPVT X bTcQh P TgcTa P aTbXc aSXXTa
A P S A X ch_XP P_XPcX bRVT PcR
ATR T STS A aTbXcP RT X " : □

F Wāt

x 8 X dW XSdRc a_TPZ c _TPZRdaaT c
x X dW

5 adVT TgP _T STbX/ dVT BB" 1 BRWαzh SXST X bT TRcTS U aXb f TaU d PaSe dPVT P S V S dVTa P
RVPRCtaXcR _PaTSc b P TaSteXtbCWT d_XP U d PaSe dPVT UdVT BB" 1 X &e dPc 0

CWT SXST dbcPb QT bT TRcTS f XVP P_a_aRcT_f TaapcXVCWT SXST R SdRb dVT dc dcRdaT cSdaXV
dVT WcX T UdVT XcTaP _f Tabf XRW/CWT WcX T UdVT XcTaP bf XRWX P U RcX UdVT PgX d X_dc
e dPVT dVT dc_dce dPVT P S dVT bf XRWVUaT dT RnCWT dc dcRdaT cSdaXVdVT WcX T X d cX XS Qh dVT
U d PaSe dPVT UdVT SXST c RPRdPcT dVT Xb d P T db R SdRcX bbTb UdVT SXSTc c WWTa b f XRWV
UaT dT Rxb dVT PR bbTb UdVT SXST TTS c QT dPZT Xc PRR d cCWT PR bbTb UdVT SXST PaT SdT c dVT
RVPaXVP SSXRPaXV UdVT Yl RcX RP_PRX RTP SaTeTabTaTR eTaR VP aVT 4 dPcX ! XdbTS c RPRdPcT
dVT c P _f TaSXbXPcX XRdSXVR SdRcX bbTb P SPR bbTb UdVT SXST

CWT BB" 1 SXST VPb P Yl RcX RP_PRX RT U _5DbXV 4 dPcX ! dVT c dP bb X dVT SXST Pc dVT
PgX d X_dce dPVT X F

8dVT _f Tabd_h b_T Sb P bX/ XRP cP d c UcX T Pc XWt PS RdaT d aX b TT_ ST R bXTadbXVP
SXSTf XRWVPb P f TPZPVT RdaT cP Sb XWth WWTaU d PaSe dPVT Sa_

0 5 RTaP RP_PRX a dbcQT R TrcTS Qtd TT 1 C_X P S BF _X U a _a _Ta _TaPcX 0 RTaP RP_PRX af WVG A aQTcTaVaPST SX TrcaR X aTR T STS CWT RP_PRX abWdS VPeTP E aVWVae dPVT dPcXV

CWT bT TRcX U dc_dcRP_PRX af XPUWTRc dc_dce dPVT aX_T X bcTPSh bPcTP S PSaP bX c_TaU a P RT

CWT dc_dcaX_T X TbbT cR h R _ bTS Udf _Pab T X RPdbTS Qh dVT XSdRc aRdaaT caX_T V XVdW dVW dVT 4 dXPT cBTaXb ATbXb RT 4BA UoVT dc_dcRP_PRX dP SdVT dVTaX RPdbTS Qh dVT XSdRc aRdaaT caX_T RVPa/XVP S SXRPa/XV dVT dc_dcRP_PRX dC PRWTeT b P dc_dce dPVT aX_T RW bTP f 4BA dc_dc RP_PRX a XT RTaP RP_PRX a 5 a RTaP RP_PRX d dVT RP_PRX RT S XPcTb dVT dc_dc aX_T 5 a bX_XRPcX dVT dc_dce dPVT aX_T RP QT TbcX PcTS Qh 4 dPcX %STbXTS

%

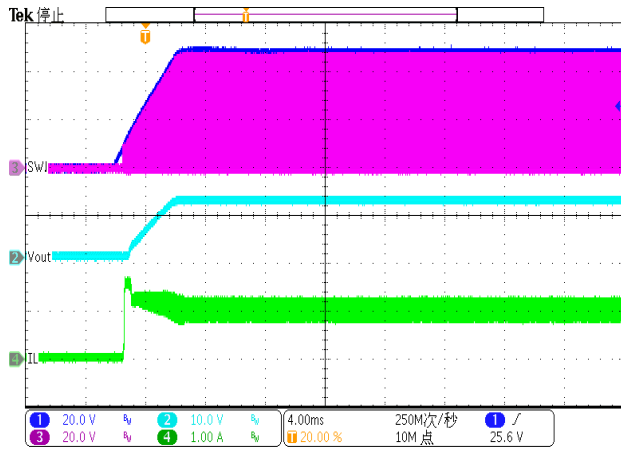
F VtaT

x X dVT dc_dce dPVT aX_T
x Uf X dVT bf XRVXVUaT dT Rh
x X dVT XSdRP RT UXSdRc a
x 2 DC X dVT dc_dcRP_PRX RT
x E DC X dVT dc_dce dPVT
x E X dVT X_dce dPVT

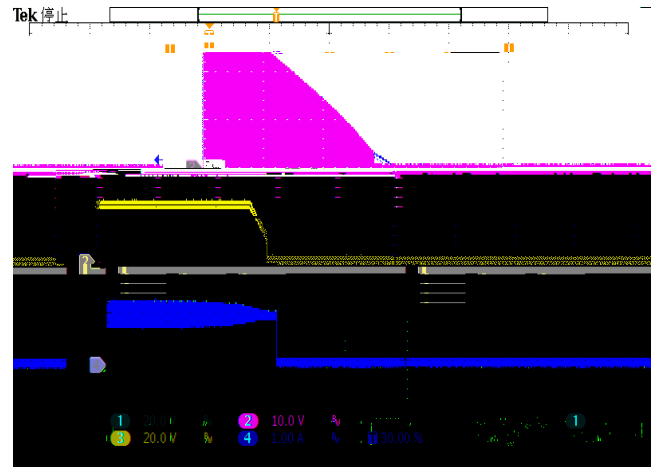
3dT c RP_PRX ab STVaPSXV d STa32 Qrb dVT Qrb e dPVT RP bX XRP ch aTSdRT RP_PRX RT 2TaP RP RP_PRX d RP bT bc UdVTXRP_PRX RT Pc dPcTS e dPVT CWTaUaT TPeT Pa/X dVT e dPVT dPcXV c T bdaT PST dPcT TWTaX RP_PRX RT Ch XRP h d !! 5 RTaP RP dc_dcRP_PRX d f aZUa bcP_XRPcX b

CPQT! Xd ch_XRP ePdTb UTgcTa P R _ T dU ab T bP SPaS dc_dce dPVTb

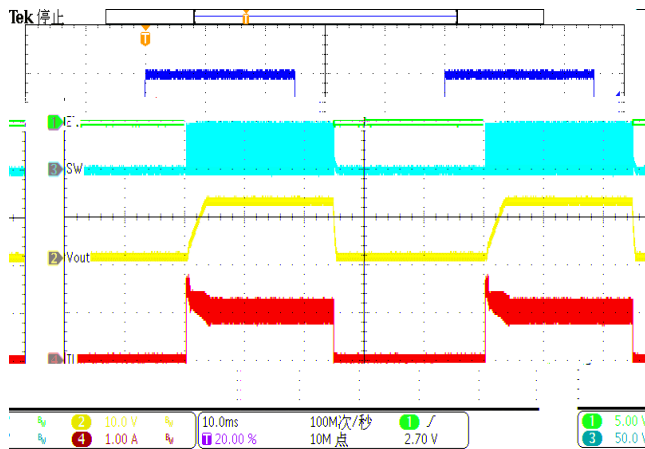
EX, E E dq ! E d Tbb dWf XT cTS



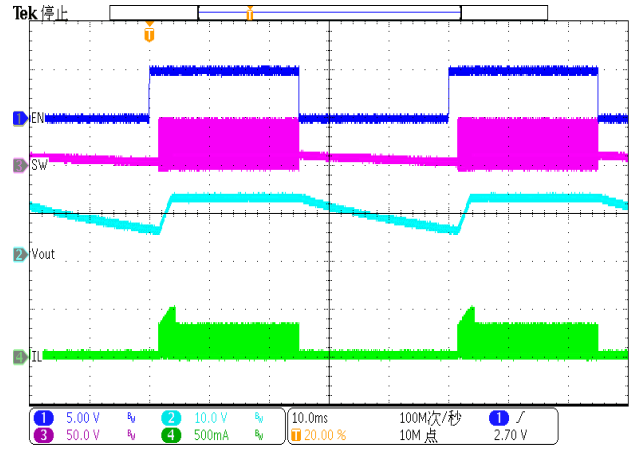
5Xdaf ! □ f Tad_ 8 PS, 0



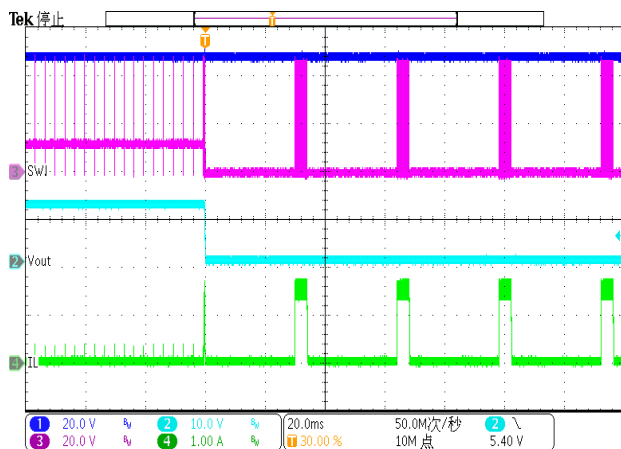
5Xdaf " □ f TaS f 8 PS, 0



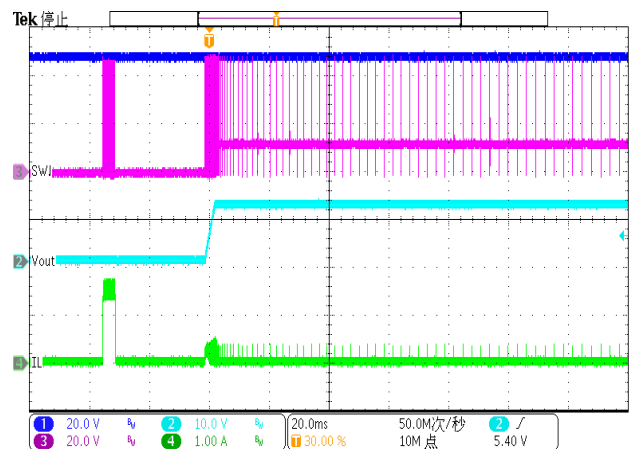
5Xdaf □ 4= c WT 8 PS, 0



5Xdaf . 4= c WT 8 PS, 0

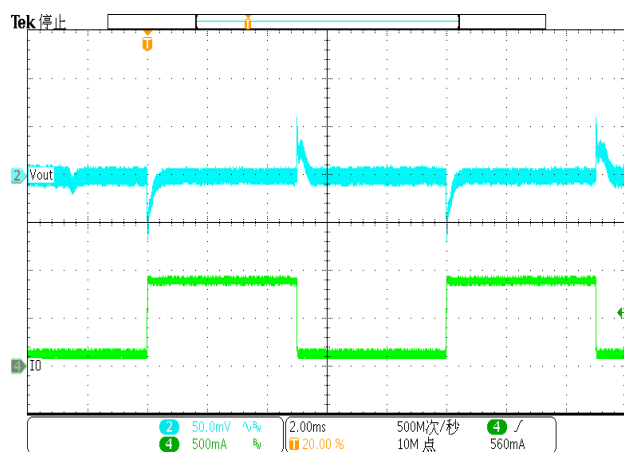


5Xdaf % eTa2daaf c a cTRcX

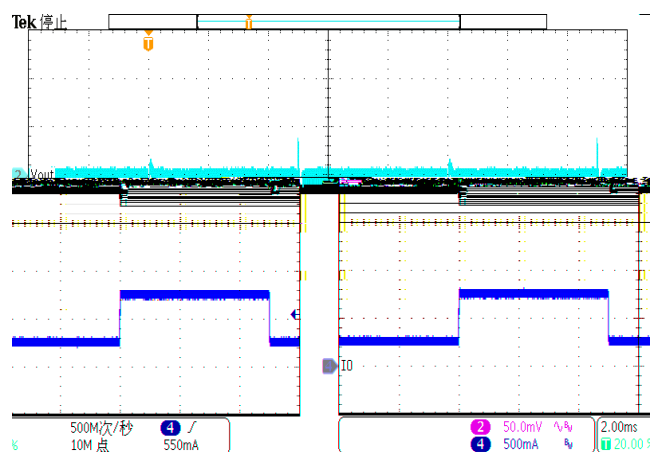


5Xdaf & eTa2daaf cAT TPbT

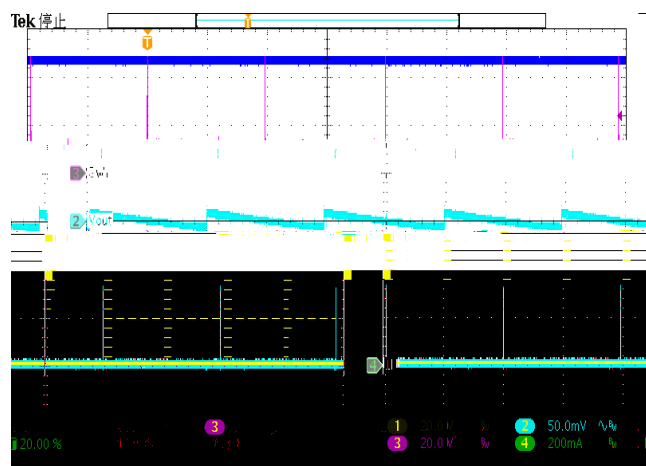
EX, E E dc ! E d Tbb dWf XT cTS



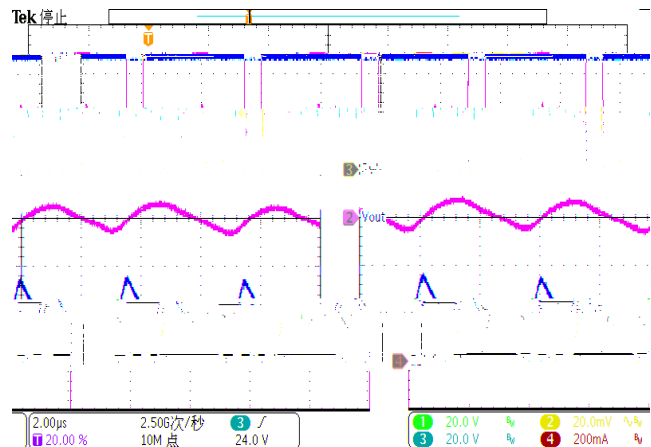
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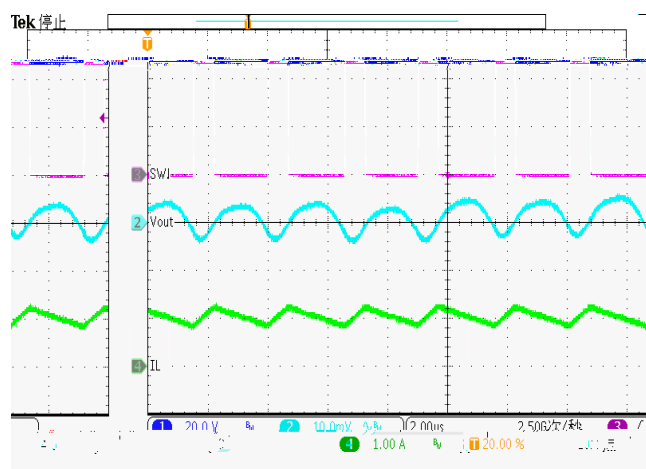
5XdaT (□ PSCaP bX c □ 0 □ 0 □ 0 db



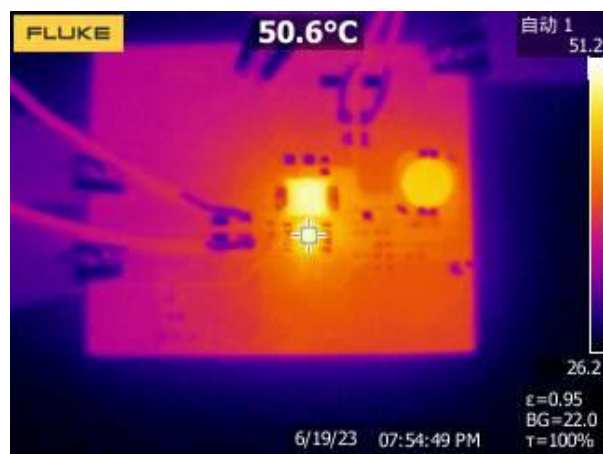
5XdaT! □ dc_dcAX_ T 8 PS, 0



5XdaT! . dc_dcAX_ T 8 PS, □ 0



5XdaT!! □ dc_dcAX_ T 8 PS, 0



5XdaT!" □ CWTa P E& ! E dc 0

a _Ta 21 Ph dc X P RaX P UaB2C 0 ! b bdQTP S TWRX c _TaPcX CWT cPRTb R SdRcXVUPbcbf XRVKV
RdaT d ae dPVtb PaT TPbh c XcTaPRcf XWbcaPh XSdRP RT P S _PaPbXRP PRX RT c VT TaPcT XT P S
STVaPST _TaUa P RT 5 aQTcTaaTbd d U f dVtbT VdST XTb Pb QT f)

1. f Ta Va d SXV bRW T X eTa RaX P QTPdbT URPaXV _f Ta dTa P P S V XWQ d RXV XT
Pbb RRTSf XWR RZLaT dT RhCWT dV Q UadT Xc PZT Va d S cPRT f Tbc X _T ST RT P S _f TaPaT
SXaQdTS TeT h 21 BdWRX ch _PRXV Va d SPaTP f X _cX XT dTa P P S cPdbXV eTaVTPcPaTP

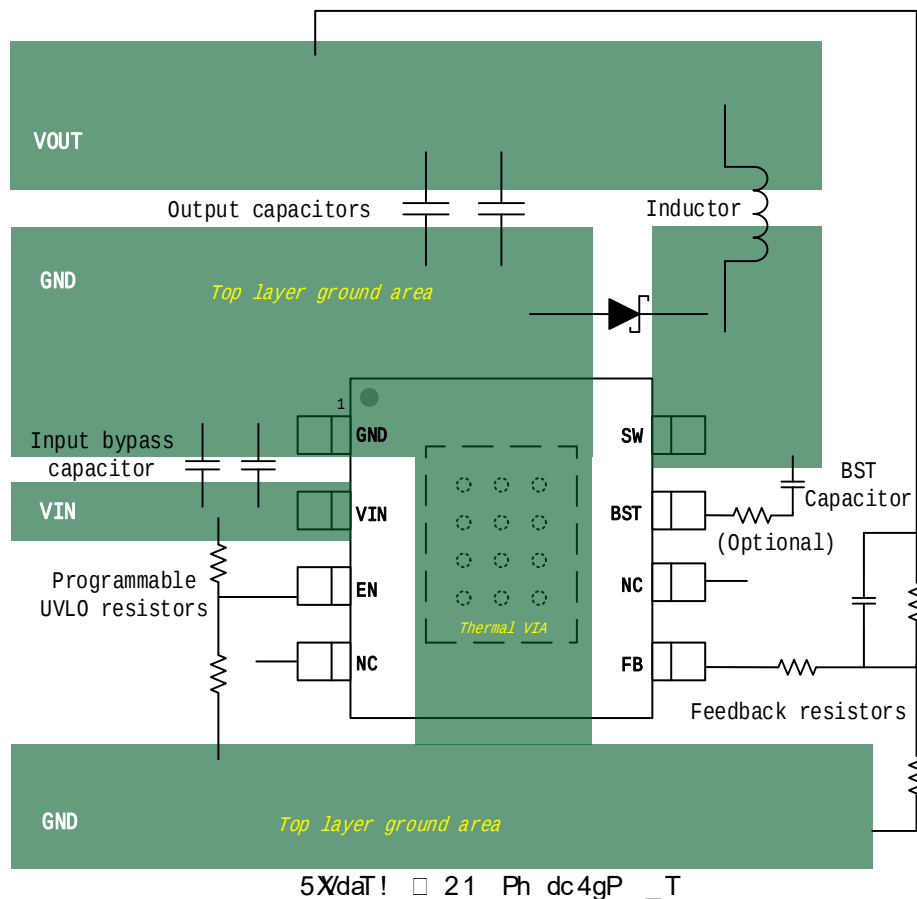
2. PRT P f 4BARTaP XRP PRX aPbR bTc E & _XP SdV Va d SPb _bbXTc aTSdRT _PaPbXRTWR

3. 5 a _TaPcX PcUa dPcTS PS dV c _bXT Va d SPaTP dbc _a eXT PST dPcT WTPcSXbXPcXV PaTP < PZT
bdaT c _bf XRVKV _f XW _f TaVPeT f TaX _T ST RT UVa d SXV

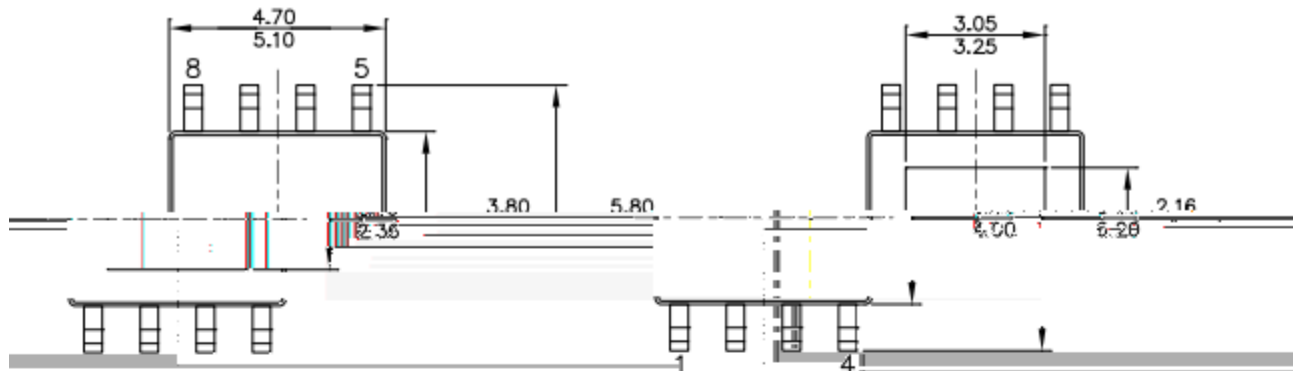
4. CWT _f Ta_PS
bWdS QTR TRcTS c Q c 21 Va d S _P Tb dbXV d cX TeXb SXTRch d STadV 2 CWT RT cTadVa P
_PS bWdS Pf Phb QT

5. dc_dcXSdRc abWdS QT _PRTS R bTc dV BF _XCWT PaTP UdV 21 R SdRc a XX KTS c _aTeT c
TgRTbbXT RP PRXaR d_XV

6. A d cT 1BCRP PRX acPRT dV Q c PhTac _a eXT f XT PdWU ac _bXT Va d S



I D EG HKF MHG



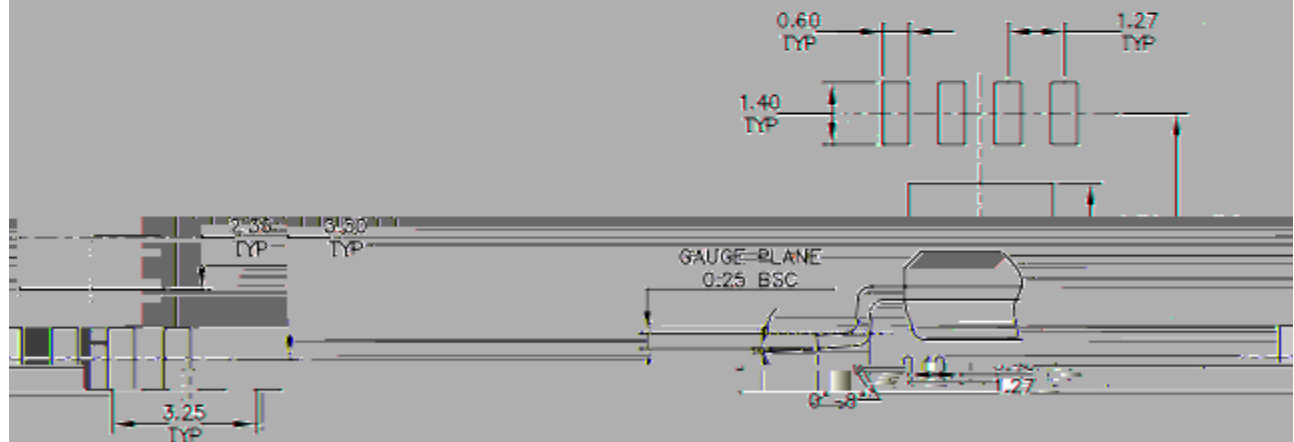
BOTTOM VIEW

TOP VIEW



SIDE VIEW

FRONT VIEW



RECOMMENDED LAND PATTERN

DETAIL "A"

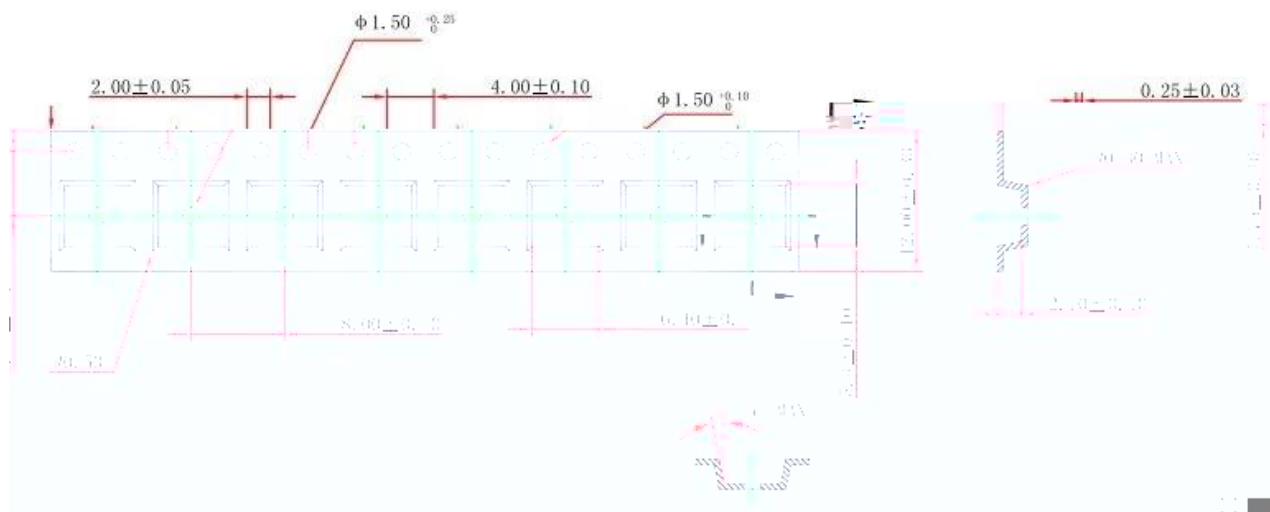
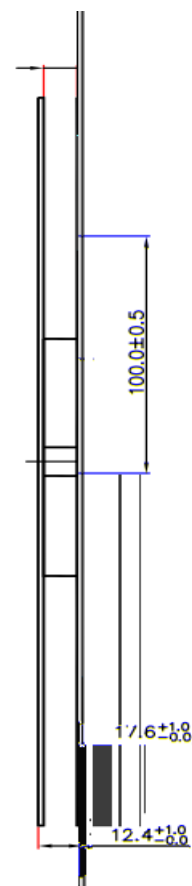
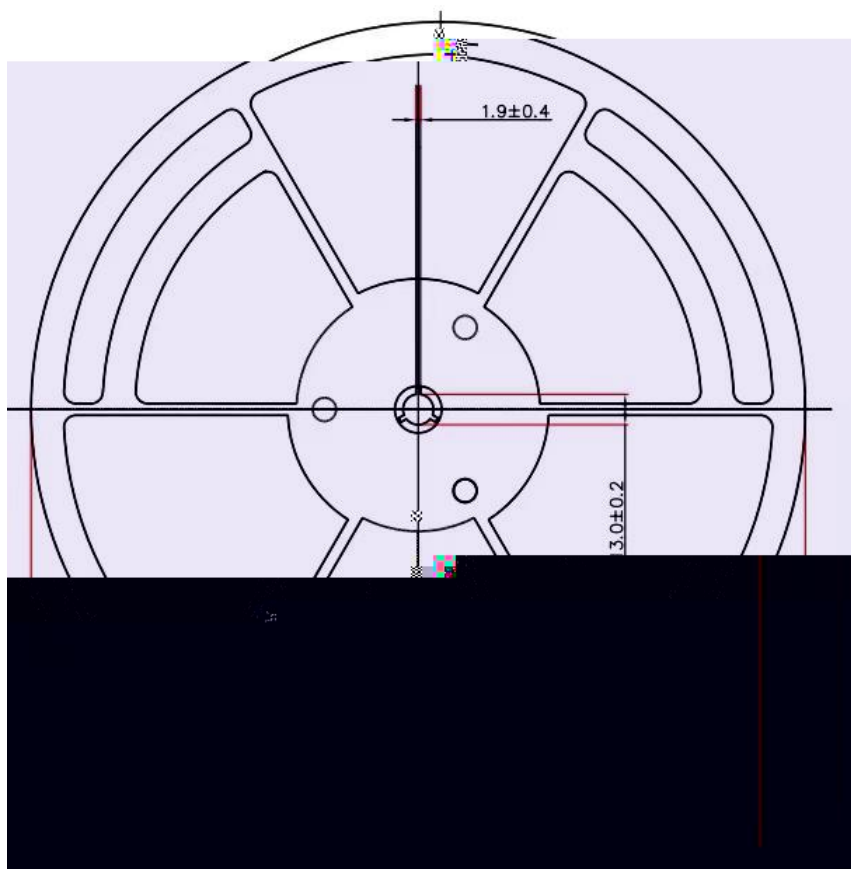
RE

E:

NOT

CONTROL DIMENSION IS IN INCHES. DIMENSION IN BRACKET IS IN MILLIMETERS. 1) C
PACKAGE LENGTH DOES NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS. 2) P
PACKAGE WIDTH DOES NOT INCLUDE INTERLEAD FLASH OR PROTRUSIONS. 3) P
LEAD COPLANARITY (BOTTOM OF LEADS AFTER FORMING) SHALL BE 0.004" INCHES MAX. 4) L
PART 04141 5) A: 3.00 IN. 6) 1.00 IN. 7) 1.00 IN. 8) 1.00 IN. 9) 1.00 IN. 10) 1.00 IN. 11) 1.00 IN. 12) 1.00 IN.

M I G K E E HKF MBG



CVT XU a PcX X dW S Rd T cX bdQTRcc RVP VTf XWdc cRT DbTa bWdSf PaP cP SVdPaP cTT dVT dWS
 _Pat 8 cT TRdP a _Tah aWb PaT cXU XVTs d _f VT XcTV PcXVBXR 2 cT cCTRW Vh B2C _a SdRb Xc P h
 P __XPcX B2Cf X cPbbd TP h TVP aTb _ bXXh UaP hbPSP __XPcX b