

3.8V-36V Vin, 5A, High Efficiency Synchronous Step-down DCDC Converter with Adjustable Frequency

BA2P NAO

- Q=HBA BKN QPK KPERA LLHE=FEKJO
- Q=HBA SIED PDA KHKS EIC. ACQPO
AREA0AI LAN+PQA N A RK
I EJP+LAN+FEJC0AI LAN+PQA. =JCA
AREA) / HCOIE=FEKJ (ARAH
AREA) / HCOIE=FEKJ (ARAH
- 3 EA %LQP. =JCA 2 2
- 1 L RK KJFEQKQO+ QLPQ QNAJP
- 2 AA = G. ABANAJ A2KIP=CA
- %PACN+PA I ED / EA=J I (KS / EA
, KSAN) + / 00
- , QQA / GELEIC) K A , /) SIED Q - QZAO AJP
QNAJPE / HAAL) K A
- JO) EIE Q + J FE A
- I O%PANI=H/ KBOP=NPOE A
- FOOP= HA NAVQAJ U G VRK) V
- TPANI=H HK G/ UJ DNKJE=FEKJ
- NAVQAJ U/ LNA= / LA PQI //) K Q=FEKJ BKN
) % A Q FEKJ
- , NA FEKJ J= HA0DNACKH BKN= FOOP= HA %LQP
2KIP=CA1J AN2KIP=CA (K G+ QP, NKFA FEKJ
12(+ 0DNACKH =J UOPANAO
- (KS NKLKQP) K A+LAN+FEKJ
- ANR= HA %RANFEIC2KIP=CA. ACQH+PKN
- +RANRIP=CA=J +RANOAI LAN+PQA, NKFA FEKJ
- R=FE HA E=J / +, (, = G=CA

2 LLHE 2PEK O

- QPK KPERA / UOPAI
- 1/ 0ULA , KSAN AHRANU 1/ D=NOEJC
- % COPEH=J) A E=H EONEQFA , KSAN/ QLLHBAO

AO NELPEK

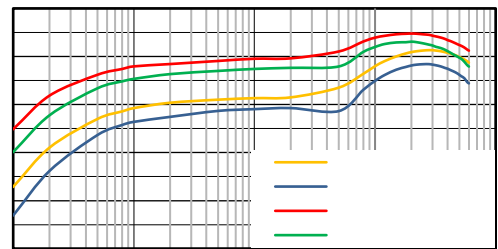
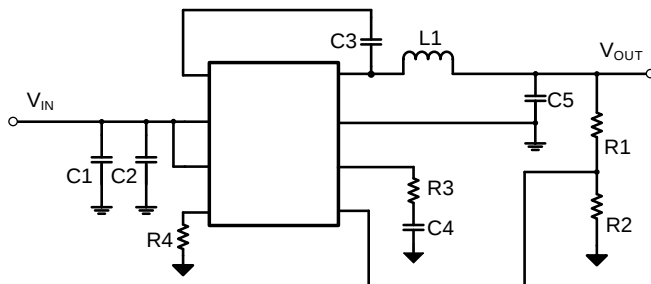
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SIED SEA ELPQ RKIP=CA N=JCIEC BKN 2 RK 2
SDED EFPACN+PAO = I DIED CE A) + / 0 =J =
I HKS CE A) + / 0 0DA / 0 - = KLFEIC
PDA LA=G QNAJPI K A KJPNKH QLLKNPO PDA , QQA
/ GELEIC) K Q=FEKJ , /) SIED RULE=H Q HKS
MQZAO AJP QNAJP SDED =COOP PDA KJANPAN KJ
= DAREJC DIED ABIEAJ U =P HEDP HK= KN Q=J U
KJ FEKJ

0DA / 0 - BA=FOAO = FOOP= HA OSIE DEIC
BAMQAJ U BKN G VRK) V SIED =J ATPANI=H
NACOPKNSDED LNKRE AORDA BATE HURK KLFE E/A AEDAN
ABIEAJ U KNATPANI=H KI LKJAJPOE/A 0DA KJANPAN
QLLKNPO ATPANI=H HK G QJJ DNKJE=FEKJ SIED =
BAMQAJ U =J BKN G VRK) V 0DA
/ 0 - =HKSOLKSAN KJANPEKJ BKN DIED ELPQ
RKIP=CAK HKS KQLPQPKIP=CASIED=I EIE Q JOKJ
FE AKBEDD CE A) + / 0

0DA / 0 - ED=J HA FNKI =CJAFE %PANBANAJ A
) % BNAJ HJ Q G KJANPAN SIED IE LHA AJFEIC
KLFE E/A AOIEJ BKN) %NA Q FEKJ 0DA / 0 -
BA=FOAO NAVQAJ U / LNA= / LA PQI // SIED
FEPANIEC QL=J KBPDA G V OSIE DEIC BAMQAJ U =J
I K Q=FEKJ N=PA KBOSIE DEIC BAMQAJ U RKA Q A
PDA KJ Q FA) %

0DA / 0 - KBAND U HA U U HA QNAJPE IE=J
DE QL KRAN QNAJP LNKFA FEKJ PDANI=H ODQP KSJ
LNKFA FEKJ KQLPQKRANRIP=CA LNKFA FEKJ =J ELPQ
RKIP=CA QJ ANRIP=CA LNKFA FEKJ 0DA AREA ED
=R=FE HA E=J LE PDANI =HJ AJD=J A / +, (L= G=CA

PULE 2 H2 LLHE 2PEK



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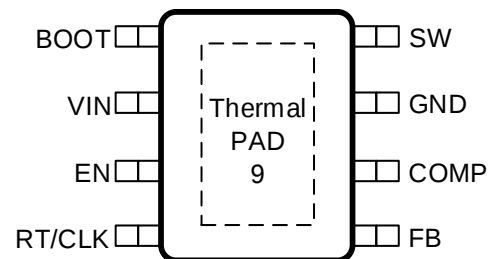
2 OKH PAI 2TE I N2PE CO

+ RANKLAN+RECBAA=ENPA LAN+QNA QJHCOOKPDANSIDA JKPA

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/ RKN+CAPAI LAN+QNA 0 / 0			

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LE K BEC N2PEK



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*		NKQJ
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+ RANKLAN=FEJCBAA =EPAI LAN=PCNA N=JCA QJHACOKPDANS IEA JKPA

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0&	+ LAN=FEJCFQJ FEKJ PAI LAN=PCNA			

AO NPE CO

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(1) - E=FAOFD=P) ONACECCD=HHI AEJ = KN=J ASIEDPA * / % / & & / CLA EE=FEKJ

PDANI HE BKNI PEK

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/ 0 LNKRE AO. & =J . & JQ ANDKJIU=ONBANAJ ARK AOTIE =FAFQJ FEKJ PAI LAN=PCNAOKBPDA AREAO . & =J . & =NAJKP=
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K=N , KJ SDEDPDA / 0 - EDI KQJFA PDANI =HL= OSA =J ATPANI=HAJREKJI AJP=HB= PKNO ODA, K=N ED= DA=P
OEJGPD=PIEOKHANA PKPDAHA= O=J PDANI =HL= KBPDA / 0 - D=JOECPDA ACIEJ KN KJIEQ=FEKJ KBPDA, K=N
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) A=COQA KJ & / HUAN, ODAR=KQAOCEAJ E PDIEP= HA=NAKJIUR=HE BKN KI L=NEKJ SIEDKPDANL= G=CAO=J =JJKP
A QDA BKN ACIEJ LQNLKQAO ODAQAR=KQASANA =HQHFA E= KN=J ASIED & / =J OE QHFA KJ =CLA IEA &
K=N ODAU KJKPMLNCAJPDALANKNI =J AK P=EA E=J = PQ=HLLIE=FEKJ

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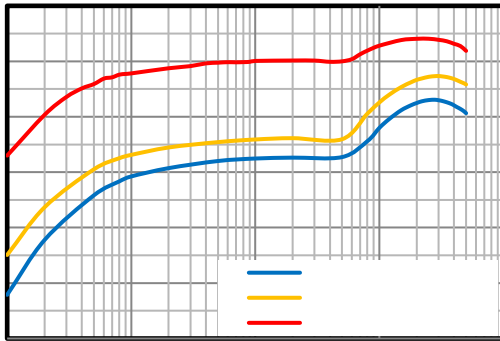
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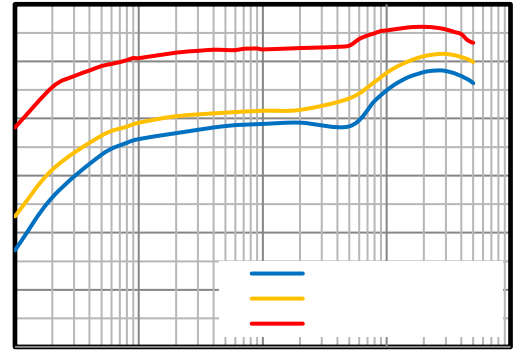
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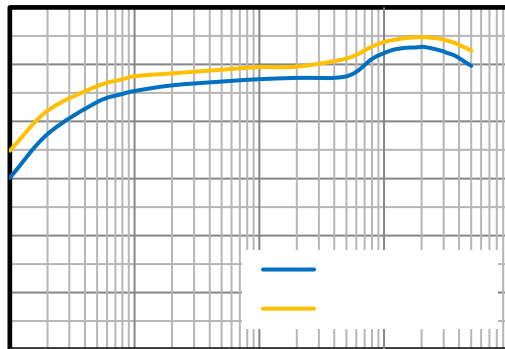
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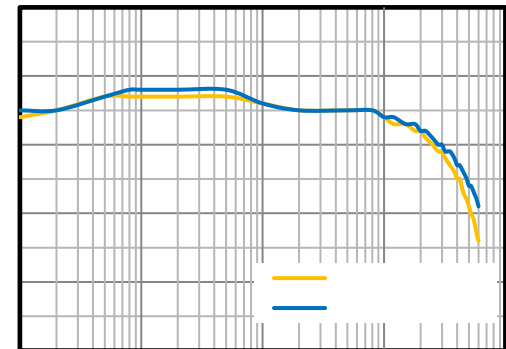
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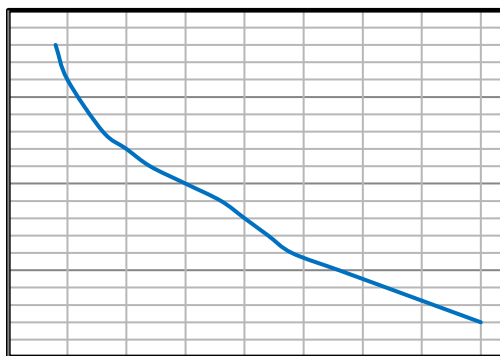
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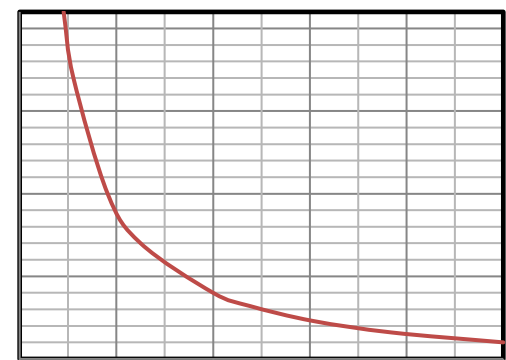
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EQNA (K= . ACQ#PEKJ 2KQP 2



EQNA (E.A. ACQ#PEKJ %QP



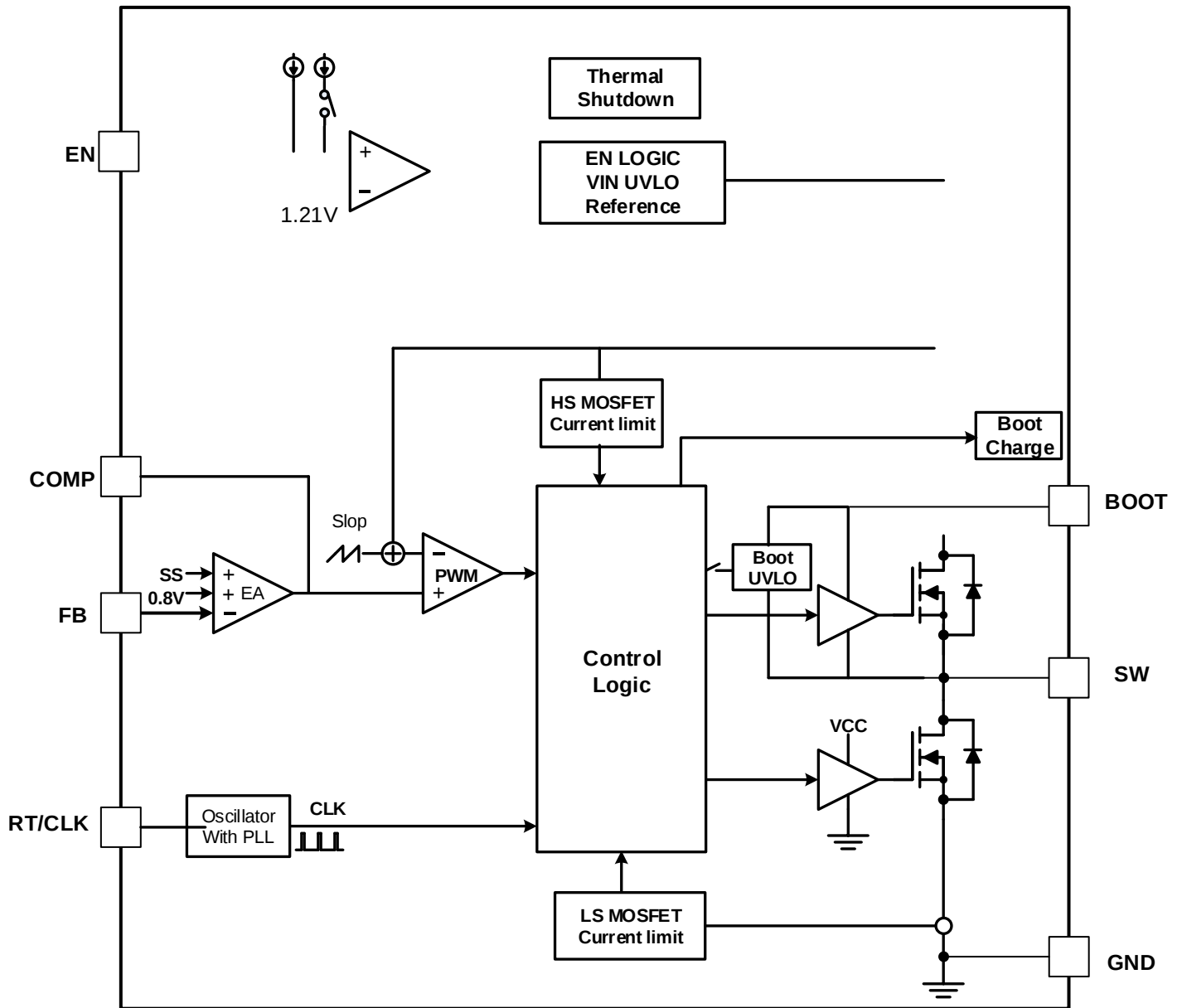
EQNA IK G NAMQAJ URO. 0 (. ACQ#PEKJ

EQNA / DQPKSJ QNAJPRO0AI LANFQNA

EQNA - QZAO AJP QNAJPRO0AI LANFQNA

EQNA * 0DNACKH R00AI LANFQNA

EQNA QJ ~~FK~~J=H HK G ~~E~~CNFI



KLANKP

ODA/ 0 - ED= 2 2 ELQP KQLP) %BAU HUQU DNKJKQD Q G KJRANFANSIED QPPE I . OKJ DED CE A=J I . OKJ IKS CE ALKSAN) +/ 00 RE LHA AJRO KJO=JPBAMQAU ULA=G QNAJPI K A KJPNKH RK NACQ#FA KQLP RKIP=CA LNKREJC AT AHJUP HA =J IK= R#JOZJP NAQKJOA =J OE LHUEJC FDA ATPANI=H BAVQAU U KI LAJG=REKJ ACEJ

ODA OSIE DEJC BAVQAU UED= FQOP= HABKI G VRK) VSIED PSK OAPPEIC I K AO NACPKNOAPPEIC BAVQAU U I K A=J FDA IK GOU DNKJE=REKJ I K A RK KLRE E/AO AEDANFDA LKSANABE EAJ U KNFDA ATPANI=H KI LKJAJRO OE/AO ODA/ 0 - BA=QNAO=J EFANI=H I OCKBP=NPPE A RK =RKE H#NCA EIMQD QNAJP=J KQLP RKIP=CA KRANCKKP QNEJC OP=NPQL ODA AREA =KQ OQLKNRO I KJHED E OP=NPQL SIED LNA EOA KQLP KJ REKJ ODA OA=I HAOOI K A R#JOE KJ A PSAJ , 3) I K A=J , /) I K A KLAN#REKJO AJQNA DED ABE EAJ U KRANSE A IK= QNAJP#JCA ODA MQZAO AJP QNAJPED RULE=HU Q QJ ANJK IK= KNCHAL I K A KJ REKJ RK = DEARA DED ABE EAJ U=PHEDPIK=

ODA/ 0 - D=O= AB=QPELQOP=NPQL RKIP=CA KB 2 SIED I 2 DUOFANQED ODA * LEJ ED= DED RKIP=CA LEJ SIED = LNA REKJ PDNACKH PD=P =J A QOA RK = FQOPDA ELQPRKIP=CA IK GKQPDNACKH OSIED PSK ATPANI=H NACPKNORKI AAP= Q#FA DEDAN12(+ QUOFI NAMQZAN AJRO IK=REJC * LEJ AJ= HAOFDA ARE ASIED FDA EFANI=H LQHHL QNAJPRK FDA LEJ KJJA REJC * LEJ RK 2% EA HU OP=NPQL FDA AREA=QPKI =FE=HU

ODA/ 0 - E LHA AJRO FDA NAVQAU U / LNA= / LA RQ // I K Q#REKJ CLNA= EJC KB AJFANA OAH FA OSIE DEJC BAVQAU U // E LNKRAO) %LANIKNI =J A U JKP=HKSEJC AI EPA AJANCU RK OP=U E =JU KJA NA AERAN =J BKN= CEJIE=JPAJOPDKRE A

ODA/ 0 - EQHLNKFA REKJ BA=QNAOE HQ AFDA ELQOPQ ANRKIP=CA IK GKQPDNACKH KQLP KRANRKIP=CA LNKFA REKJ KRAN QNAJP LNKFA REKJ SIED U HA U U HA QNAJPHE EJC =J DE QL I K A KQLP D=N OCKNP LNKFA REKJ =J PDANI =HODQ KS J LNKFA REKJ

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ODA/ 0 - AI LKHUEHA BAVQAU ULA=G QNAJPI K A KJPNKH J EFANI=H IK GEJE#FAO RQNEJC KJ FDA EFAC#FA DED CE ALKSAN) +/ 0 - E A= D U HA FDAJ E Q RKN QNAJPNDAOHEA=NUJ 3 DAJ FDA QNAJPDNCKOD DED CE A) +/ 0 NA= DAOFDA PDNACKH HARAHOP U FDA +) , RKIP=CA KB FDA EFANI=HANIKNI I LHEAN FDA DED CE A) +/ 0 RQNO KKB ODA QUJ DNKJKQD IKS CE A) +/ 0 - RQNO KJ REH FDA JATP IK G U HA ACEJ OKN FDA E Q RKN QNAJPB=HODRK VANK

ODA ANIKNI I LHEAN OANRA OFDA +) , JK A U KI L=NEJC FDA RKIP=CA KB FDA LEJ SIED =J EFANI=H 2 NABANAJ A RKIP=CA 3 DAJ FDA IK= QNAJPE NA=OAO = NA Q REKJ E FDA BAA = GRKIP=CA NA#REARK FDA NABANAJ AN#EAO +) , RKIP=CA REH FDA =RAN#CA E Q RKN QNAJPI =P DAOFDA E NA=OA IK= QNAJP ODEBAA = GIKKL SAHNAQ#FA OFDA KQLP RKIP=CA RK FDA NABANAJ A ODA AREA =KQ EFAC#FAO=J EFANI=HOKLA KI LAJG=REKJ EN QNU RK LNAJPOQ D=NI KJE KO REH REKJ SDAJ QRU U HA EDONA=FAFD=J BKN= EHA BAVQAU ULA=G QNAJPI K A KJPNKH

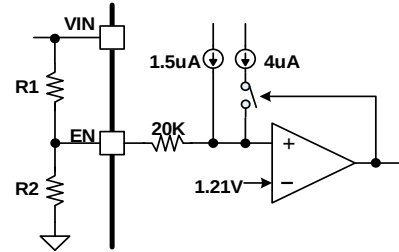
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ODEJ KJPNKH ODAI ADAHO= DEAREJC DEDANABE EAJ U UOGELEJC U HAOR NA Q A OSIE DEJC LKS ANIKOD=J C=FA NRA D=NEJC IKOD ODA KJPNKHAN KJOQ LREKJ MQZAO AJP QNAJPE Q QNEJC OGELEJC LANIK SIED JK OSIE DEJC RK E LNKRA ABE EAJ U EQNDAN

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ODA/ 0 - EAJ= HA SDAJ FDA 2% LEJ RKIP=CA NEOA= KQ 2 =J FDA * LEJ RKIP=CA AT AA OFDA AJ= HA PDNACKH KB 2 ODA AREA ED E= HA SDAJ FDA 2% LEJ RKIP=CA B=HOD AKS 2 KNS DAJ FDA * LEJ RKIP=CA ED

AKS 2 J EFANI=H Q LQHQL QMAJPOKQNA RK * LE =HKSOFDA AREA AJ= HASDAJ * LE BK=PD
 * LE ID= DEDRKIF=CALE PD=P =J A KJJA FA RK 2% BA RUJRK Q=NPQL FDA AREA
 KN= DEDANUOFI 12(+ PDNACKH KJJA P=J ATPANI=HACERKN IRE AN. =J . OOKS J E IQNA BKI 2%
 RK * ODA12(+ NEJC=J B=HHC PDNACKH =J A =HQ#FA U MQ=FEKJ =J MQ=FEKJ NAOLA FERAU



SDANA

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- 2_{B=HHC} IDB=HHC PDNACKH KB2 E 12(+

IQNA / UOFI 12(+ UAJ= HA IRE A

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ODA / 0 - NACQ#FAO FDA EFANI=H NABANAJ A RKIF=CA =P 2 SED ± RKAN#J A KRAN FDA KLAN#FEJC
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 OK IE LNKRA ABIE EAJ U=PHEDPHK= O HNCANR=KQA NACERKN=NA NA KI I AJ A KS ARAN IFDA R=KQAO=NA RK DED
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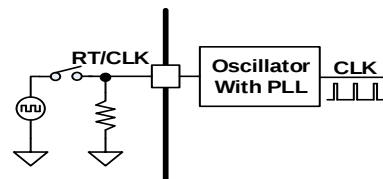
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 ODA OKERQ=NP=K K NACER QNEC ODQ KS J QARK PDANI =HKRANK= EJC

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 QJ DNKJE/EJC RK=J ATPANI=H IK G

% NACERKN OAPFEJC BNAMQAJ UI K A =NACERKN LH A AFSAAJ . 0 (LE RK FDA CNKQJ OAPFDA OS IE DEJC BNAMQAJ U
 KRAN= SEAN#JCA BKI G VRK) V ODA . 0 (LE RKIF=CA EOAPLE=H 2 . 0 (LE IDJKP=HKS A RK A
 HAPBK=FEJC KNODKNA RK FDA CNKQJ 1OA MQ=FEKJ KNFDA LKPE IQNA RK APANI EJA FDA NACER=J A BKN=
 OS IE DEJC BNAMQAJ UJAA A



SDANA EOS IDOS IE DEJC IK GBNAMQAJ U

IQNA / APFEJC NAMQAJ U=J IK G/ UJ DNKJE=FEKJ

% IK GOU DNKJE=FEKJ I K A FDA OSIE DEICBNAMQAJ UOU DNKJE/AORK=J ATPANI=H IK G=LLHEA RK.0 (LEJ ODAOU DNKJE=FEKJ BNAMQAJ UNJCAIBNKI G VRK) V=J PDANIECA CAKBDA/3 OU DNKJE/AORKFDA BHEICA CAKBDAATPANI=H IK G=P.0 (LEJ SIEDRULE=H JOIE A A#U OMQ=NAS=RA IK GOEJ=HK.0 (LEJ QOPD=RADEDHARAHUKIKSANPD=J 2 IKS HARAHUKDEDANPD=J 2 =J LQDASEPDH#NCANPD=J JO

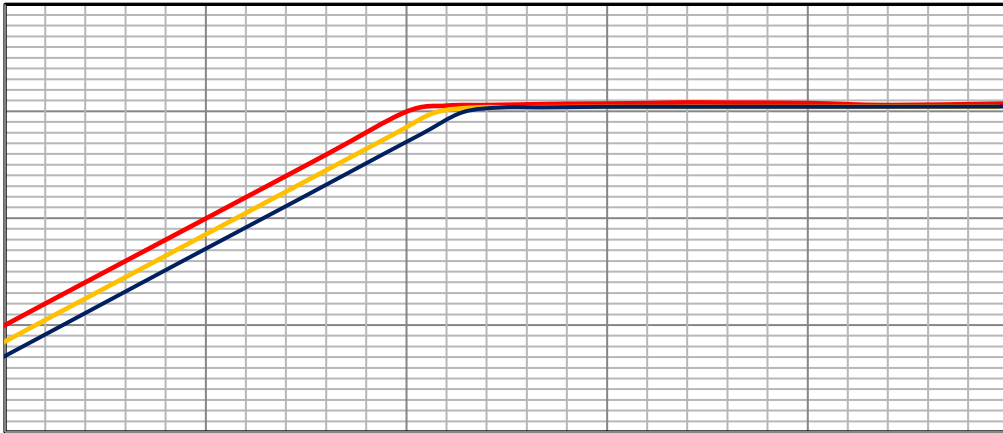
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J ATPANI=H KKPON#L =L= EKN APSAAJ ++0 LEJ=J / 3 LEJ LKSANDFDA BK=FEIC C=FA NERANIK DEDCEALKSAN) +/ 0 ODA KKPON#L =L= EKNRKIP#CAED D=NCA BKI =J EFACN#PA RKIP# FOOP



EQNA (+ + LAN#FKJ D=N# FANIDE 2KQP 2

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0DA EJ Q#KN QNAJPEI KJFKNA QNEC DED CE A) +/ 0 - =J HKS CE A) +/ 0 - KJ 0DA / 0 -
IE LHA AJFO KRAN QNAJPLNKFA FKJ SIED U HA U U HA HE EEC DED CE A) +/ 0 LA=G QNAJP=J HKS CE A
) +/ 0 R=HAU QNAJPK=RKE EJ Q#KN QNAJPNQJJE C=S=U QNEC QJATLA FA KRANK= KNKQLPD=N OCKNP
KJ EFKJ

3 DAJ KRANK= KND=N OCKNPD=LLAJO FDA KJ RAN#AN =JJKPLNKRE A KQLP QP QNAJPK Q=FEJ H#E EJC NAWQBAI AJP
0DA EJ Q#KN QNAJPEI HI LA =PKRAN QNAJPIE E=FKJ 0DQO FDA KQLP QP KIP=CA NKLO AHKS NACQ#FA RKIP=CA
SIED RKIP=CA HACOPO=J EFANI=HNABANAJ ARKIP=CA KJFEJ QKQOU 0DA +), LEJ RKIP=CA N#I LOQL FK DED HI L
RKIP=CA 2 RLE=H3 DAJ +), RKIP=CA ED HI LA BKN U HAO FDA KJ RAN#ANOKLOOSIE DEJC EFANNAI =EJC
+ BKN U HAO FDA ARE A NAO#N#OBKI QKPO#NIEC LD=OA #KRANK= KND=N OCKNP KJ EFKJ OPHHATERO
QNEC OKEPO#NP=J I =GA +), RKIP=CA HI LA =PDIED BKN U HAO FDA ARE A AJFANDERK FQNI EJC KBI K A
=C=EJ 3 DAJ KRANK= KND=N OCKNP KJ EFKJ ED NA KRA FDA ARE A =QKI =FE=HU NA KRAN#K AJFAND JKNI =H
NACQ#FEJ KLAN#FKJ

0DA DE QL LNKFA FKJ I K A= KRAI =GAOPDA =RAN#CA OCKNP EN QP QNAJPK =HARE#FA PDANI =HEOQAO=J LNKFA P
FDA NACQ#PKN

1

0DA / 0 - IE LHA AJFO FDA + RAN#KIP=CA, NKFA FKJ +2, EN QENUFKI EJE E/A KQLP QP KIP=CA KRAN#CKKP QNEC
HK= R#JOEJUP NA KRAN#C BKI KQLP QP B=QIP KJ EFKJ KNHEDPIK= R#JOEJUP 0DA KRAN#KIP=CA KI L=N#RKN# +2,
EN QP KI L=NAOPDA LEJ RKIP=CA FK FDA EFANI=HNABANAJ ARKIP=CA 3 DAJ RKIP=CA AT AA O KB EFANI=H
2 NABANAJ ARKIP=CA FDA DED CE A) +/ 0 FQNI OKBPK =RKE KQLP QP KIP=CA KJFEJ QA#K EJ NA=OA 3 DAJ FDA
LEJ RKIP=CA B=H#D AHKS KB FDA 2 NABANAJ ARKIP=CA FDA DED CE A) +/ 0 =J FQNI KJ =C=EJ

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0DA / 0 - LNKFA FDA ARE A BKI FDA =I =CA QNEC AT AOCRA DA=P=J LKS AN EOE=FKJ KJ EFKJO
+ J A#DAFQJ FKJ FAI LAN#FQNA AT AA O FDA EFANI=HDANI =HAJCKNOKLOLKS AN) +/ 0 OOSIE DEJC 3 DAJ
FDAFQJ FKJ FAI LAN#FQNA B=H#D AHKS FDA ARE A NAO#N#OSIE EFANI=HOKPO#NPLD=OA

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0DAKQPKIP-CA EOAP U=J ATPNI=HACOKN IE AN
=J . E RULE=H =LLIE=PKJ ODAI =FE
. A KI I AJ A . NACOP=J AEO 1 OA MQ=PKJ
PK =HQ#FA.

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SDANA

- 2. EODABAA = GMBANAJ ARKIP-CA RULE=H
2

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EDANOSIP DEICBAMQAJ EAOQLKIPQ =HANLNKEAOKBKQLOPE QPKND=J KQLOP =L= EKND NACQPEIC EIKSAN
RKIP-CA=J QNAJPNELHAO

PK IKS ANKQLQPRKIP=CA NELIA KS ARAN FDA HNCANR=KDA EJ Q RKN=IS=UO KNAQLKJ ORK = ECANLDUCE=HOS/A
 DEDANOANZONACOP=J A =J IKS ANO=QNFREKJ QNAJP CKK NCHABKN APANI EJC FDA EJ Q P=J ARK QDA EORK =HKS
 FDA EJ Q RKNLA=GFK LA=GNELIA QNAJPRK A=LLNKTE =PAUJ Z KBFDAI =TE Q KQLQP QNAJP

ODALA=GFK LA=GNELIA QNAJPEI FDA EJ Q RKN%, =J A =HQ#FA =OE MQ=REKJ

3 DANA

- %, EFDA EJ Q RKNLA=GFK LA=G QNAJP
- (EFDA EJ Q P=J AKBE Q RKN
- B₃ EFDASIE DECBAMQAJ U
- 2+10 EFDAKQLQPRKIP=CA
- 2% EFDALQPRKIP=CA

/ EJ A FDA EJ Q RKN QNAJPNELIA EJ NA=CAOSIEFDAELQPRKIP=CA OK FDAI =TE QNAELQPRKIP=CA EJ =LLHE#REKJ E NAP
 =IS=UOQDA RK =HQ#PAFDAI EJE Q EJ Q P=J ANAVQEA 1OA) MQ=REKJ RK =HQ#PAFDA EJ Q P=J AR=KDA

3 DANA

- () % EFDAL EJE Q EJ Q P=J ANAVQEA
- B₃ EFDASIE DECBAMQAJ U
- 2+10 EFDAKQLQPRKIP=CA
- 2% I =T EFDAL =TE Q ELQPRKIP=CA
- %₀₁₀₁ =T EFDAL =TE Q IK= QNAJP

= 5

0DA ELQ QNAJPK FDAOAL KSJ KJRAPIED ID KJFECKQO FDAYBKNA IENAMQIAO= =L= BKNPK OQLIURDA
QNAJPK FDAOAL KSJ KJRAPIANSDEAI =EP= BIECPDA ELQPKIF=CA 1 OA =L= BKNDSEIDHS / .
BKN ABNLAIBNI =J A ANI E =L= BNDSEID4 . KN4 . EHA FNEO=:NAQQ=HUQQCAQFA

- 2%EDDAELQPRKIP=CA

QARK =L= BKNO ACN= BC QJ AN EO PDA EO RKIP=CA =J OECIE=JRU NA QA =L= E=J A AN=I E
=L= BKNO =J IKOA I KOPKBDAN =L= E=J A =PN=FA RKIP=CA ODANBKNA HA=RAI =NCE KJ PDA RKIP=CA N=BC RK
AJCQA= AMQ=FAABA FEA =L= E=J A OULE=HU RSK AN=I E KQRLQ =L= BKNO SKNGBKNI KOP=LLHE=REKJO

ODA / 0 - AI LIKUOLA=G QNAJPI K A KJPNKHBKNA=UJ KI LAJO=REKJ =J B=OPN=JOAJPNOLKJOA J
ATPANJ=HJAFSKNG KI LNEJC NAOEPA. AN=I E =L= BKNO =J KLFREJ=H KJJA PA RK PDA +), LEJ EO
QQA BKNPDAIKKL KI LAJO=REKJ ODA MQ=REKJ OOKSOPDA IKOA IKKL Q =HCEJ=HN=JOANBOJ REKJ

SDANA

- EDANIKN=I LHEZANKIP=CA C=EJ
- %* / ED +), RK / 3 QNAJPN=JO KJ QP=J A 2 RULE=HUJ

ODA RKIP=CA C=EJ KBPDA IKKL EOCRAJ U MQ=REKJ

ODAQUOFAI D=OFK JKPASKNEDU LKHAO KJA ED QARK PDA KI LAJO=REKJ =L= BKNO =J PDA ANIKN=I LHEZANKQRLQ
NAOEKN NODAKPDANE =QQA UPDAKQRLQ =L= BKNO =J PDA IK= NAOEKN NODAKLHAO=OIK =FA =P

SDANA

- . + EDANIKN=I LHEZANKQRLQ NAOEKN
- ED NIKN=I LHEZANPN=JO KJ QP=J A Q RULE=HUJ
- . (+ EDAMQ=FAJPIK= NAOEKN

ODAQUOFAI D=OKJAVANKBIE LKNP=J ABKI . =J BV EOCQA RK KQIFAN= PFDABL =J BV IK =FA =P

ODAQUOFAI I =UD=FA=JKPDANE LKNP=JPVANK EBPDAKQRLQ =L= BKNO=O=HNCA =L= E=J AKN=DED /. R=KQA
ODAVANK QARK PDA /. =J PDA =L= E=J AKBPDAKQRLQ =L= BKNO =HQ=FA U MQ=REKJ

%PDE =CA =PDE LKHAOAP UPDAKLREJ=H KI LAJO=REKJ =L= BKNO =J PDA KI LAJO=REKJ NAOEKN. EOCQA
RK KI LAJO=PAORDAABA PKPDA /. VANK ODOLKHAO =HQ=FA U MQ=REKJ

ODA NKOKRANBNAMQAJ UKB KJRPANEOOKSJ EJ MQ=REKJ

0DAQUOPAI NKOOKRANBNAMQAJ U SDANAPDABAA = GIKKL D=OQJEU C=E IE LKNP=JP IKS AN NKOOKRANBNAMQAJ U
NAOQPD E OHS ANIHA=J IK= P=JOZAJPNALKJOA DEEDAN NKOOKRANBNAMQAJ U KQH =QDA PDA QUOPAI QJOP= HA
NA KI I AJ A NQAKBPDQ IOPK OAPFDA NKOOKRANBNAMQAJ UFK A=LLNKTE =FAHJ KBOSIE DEICBNAMQAJ U
0DA BKHKSEIC OPALO =J A BKHKSA FK =HQHFA PDA ATPANI=H KI LAJO=FEKJ KI LKJAJPO =HQHFA PDA
KI LAJO=FEKJ NAOEKN. SIED MQ=FEKJ KJ A NKOOKRANBNAMQAJ U EOCHA FA

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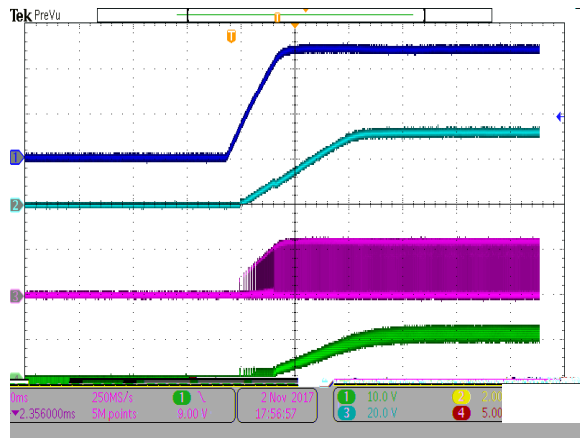
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ANHI E =L= EKNQ=J E QPKND 0DA R=HQAOKB PDA KI LAJO=FEKJ KI LKJAJPO D=RA AAJ KLFE E/A BKNB=OP
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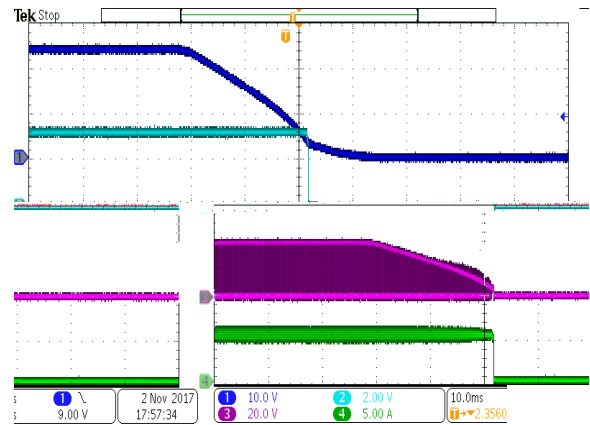
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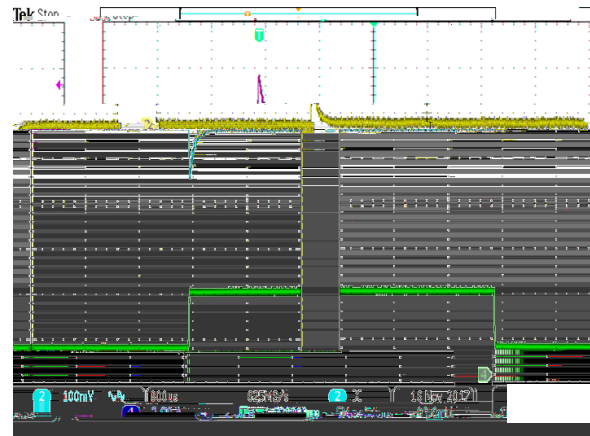
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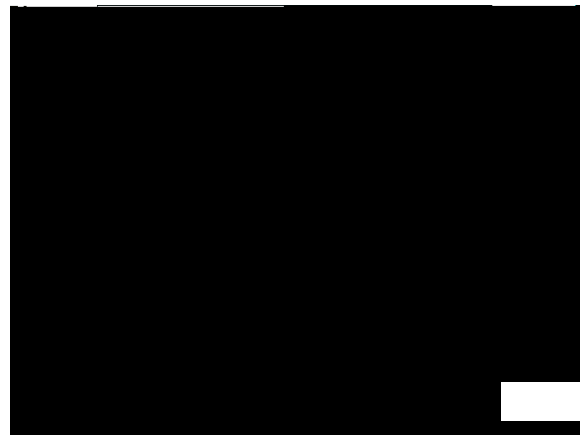
EQNA , KS AN KS J



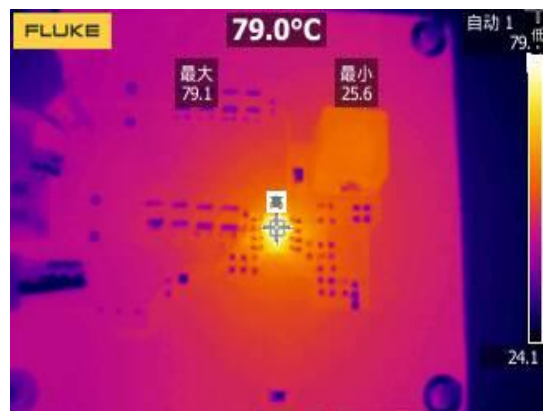
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EQNA (K= 0N+J0AJP I QO



EQNA / 3 =J 2KQP. ELHA



EQNA 0DANI =H 2KQP

P2 LA2 NAAHE BKNI 2PEK

