REVISION HISTORY

ABG8-CTZXah UXef YbeceXi bhf eXi f baf T WYXeYb cTZXah UXef a g XVheeXagi Xef ba

EXi #-EX_XTfXgb Te Xg

EXi -HcWTgX78I <688ET78E <A9BE 4G-BA

EXi %-HcWTgXEXVb XaWKW6b cbaXagFX_XVgbaf TaWEXVb XaWKW95 EXf fgbeETaZX

EXi &-HcWTgXBhgchgI b_gTZXETaZXTaWG4C84A7 E88 <A9BE 4G-BA

DEVICE ORDER INFORMATION

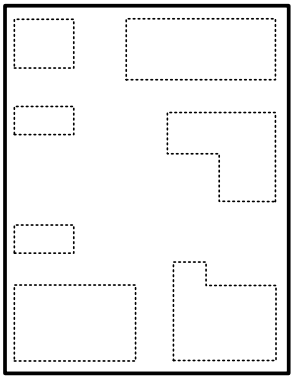
F6G%%&& H4E	GTcX EXX_	(###	*	* 86 : 4 %(K *	&

ABSOLUTE MAXIMUM RATING

Bi XebcXeTgaZ YeXX TegX cXeTgheXha_Xf f bg Xej fXabgXW

I <A	#&gb ,	I
I FJ	gb ,	I
I FJ / #af	%(gb %	I
I 5FG	I FJ #&gbI FJ)	I
I 95	#&gb)(	I
I 8A	#&gb)(	I
G= %	#gb %(	º6
GFG	)(gb (#	º6

PIN CONFIGURATION



F6G%%&& GbcI Xj

%(*

FgeXf fXf UX baWg bfX_fgXWhaWXe4Ufb_hgX T h ETgaZ T VThfXWXi VXcXe TaXagWT TZX G XWXi VX f abgZhTeTagXXWgb Yha\gba bhgf WXbYgf EXVb XaWKWB cXeTgba 6baWgbaf

% G X<6 aV_hWXf bi XegX cXeTgheX cebgXVgba gb cebgXVgg XWXi VXWheaZbi Xe_bTWVbaWgbaf =ha\gba gX cXeTgheXj _X VXXW (#6 j Xa bi XegX cXeTgheXcebgXVgba f TVgi X6bagahbhf bcXeTgba TUbi Xg XfcXVYXW T h bcXeTgaZ ha\gba gX cXeTgheXj _ eXWhVX_YXg X

PIN FUNCTIONS

I BHG		Cbj Xebhgchg c_XTfXhfXTf _TeZXTa bhgchgVTcTVgbeTf cbff U_Xgb eXWhVXbhgchgi b_gTZX ecc_X.
95	%	5hV Vbai XegXebhgchgYXXWUTV fXaf aZi b_gTZX 6baaXVgT eXf fgbeWi WXeYab I BHGgb 95 gb fXghc bhgchgi b_gTZX G X WXi VX eXZh_TgXf 95 gb g X agXeaT_eXYXeXaVX bY# +I g c VT_
8A	&	8aTU_X_bZV achg G XWXi VX Tf ceXVf ba XaTU_Xg eXf b_Wf %b ef aZ %b YT_aZ YbecebZeT TU_XHI B g eXf b_WTaW fgXeXf f
5FG		Cbj Xefhcc_ Ybeg X Z f WXcbj Xe BF98GZTgXWei Xe hfgVbaaXVgT# 9beZeXTgXe VXeT VVTcTVgbeUXgj XXa 5FGc a TaWFJ abWX
FJ	(	Cbj XeFj gV aZBhgchg FJ f g Xfj gV aZabWXg Tgfhcc_Xf cbj Xegb g Xbhgchg AbgX g TgT VTcTVgbe f eXdh eXWYab FJ gb 5FGgb cbj Xeg X Z f WXfj gV
I <A	)	Cbj Xefhcc_ achg I <A fhcc_Xf g X cbj Xegb g X<6 Tf j X_Tf g X fgXc Wbj a Vbai XegXe fj gV Xf 7ei XI <A j g T %b gb +(I cbj Xefbhe\X 5 cTff I <A gb: A7 j g T fhgTU_ _TeZX VTcTVgbegb X_ aTgXab fXba g X achggb g X<6 FXX<achg6TcTVgbe
C: A7	*	Cbj XeZebhaW hfgUXfb_WXeXWWeXVg_ gb ZebhaWc_TaX

RECOMMENDED OPERATING CONDITIONS

Bi XebcXeTgaZ YbXX TegX cXeTgheXeTaZXha_Xff bg Xej fXabgXW

I <A	<achgi b_gTZX eTaZX	%	+(	I
G=	B cXeTgaZ haVgba gX cXeTgheX	#	%(	6

ESD RATINGS

I 8F7	h Ta 5bW bWX_ 5 cXe4 AF<=8786 =F ## %# fcXVYVTgba T_caf	%	%	I
	6 TeZXW7Xi VX bWX_67 cXe4 AF<=8786 =F ##% %# fcXVYVTgba T_caf	#(	#(	I

ELECTRICAL CHARACTERISTICS

I <A0+ (I G=0 # 6 %(6 g c VT_i T hXf TeXXgXfgXWhaVXe%(6

I <A	BcXeTgaZ achgi b_gTZX		% + (	I
I <ARHI B	<achgHI B fgXeXf f	I <A ef aZ	# &(#	I I
<F7	F hgVbj a VheeXag	8A0# Ab _bTWI <A0+ (I	#,	4
<D	Dh XfVXagVheeXag	8A0% Ab _bTW Ab f j gV aZ I <A0+ (I 5FGFJ 0(I	%#(	4
I 8AR	8aTU_X Z g eXf b_W		%	I
I 8AR	8aTU_X bj g eXf b_W		%	I
E7FBAR	Z f WX98Gba eXf fgTaVX		(#	
E7FBAR	bj f WX98Gba eXf fgTaVX		%	
I 95	9XXWUTV I b_gTZX	G=0%(6 66	#*++ #+ #+ %	I
<<RF7	F7 i T_X VheeXag_ g		% &%	4
9FJ	Fj gV aZ YeXdhXaV	I <A0+ (I I BHG0(I	%##	
gBAR <A	a h ba g X		*#	af
gB99R <A	a h bYg X		%%#	af
gF	<agXeaT_fbYgfgTegg X		&	f
GF7	G Xe T_f hgVbj a g eXf b_W fgXeXf f	G= ef aZ	((%(	6

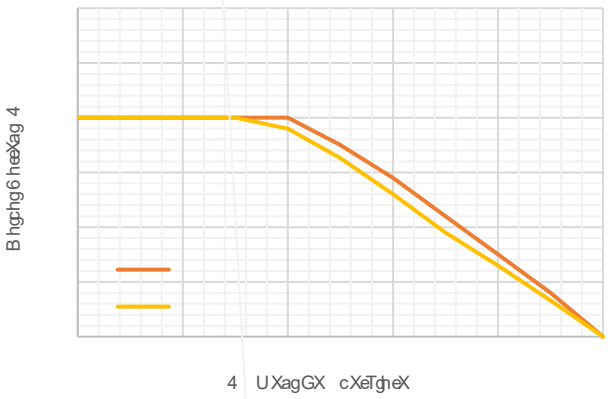
TYPICAL CHARACTERISTICS

9 ZheX 8YYVXaV i f bTW6 heeXag l <A0* %

9 ZheX % bTWEXZh_Tgba l <A0(l

9 ZheX

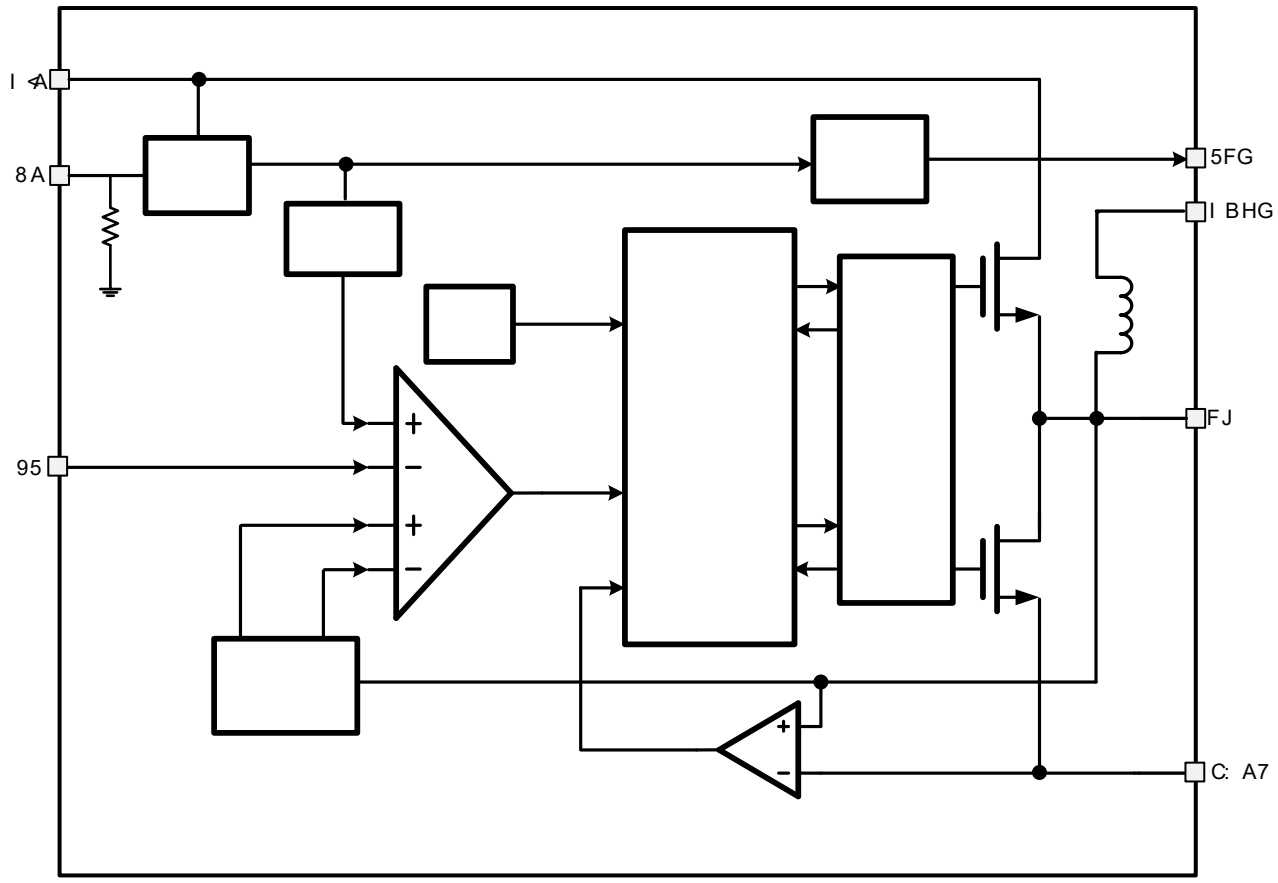
9 ZheX* G Xe T_7 XeTgaZ I BHG0 +I =40) # 6 J



9 ZheX+ G Xe T_7 XeTgaZ I BHG0&& I =40) # 6 J

9 ZheX, G Xe T_7 XeTgaZ I BHG0(I =40) # 6 J

FUNCTIONAL BLOCK DIAGRAM



9 ZheX # 9haVgbaT_5 bV 7 TZeT

OPERATION

G XF6G%%&& WXi VX f %+(I achg %4 bhgchg f aV ebabhf fgXc Wbj a Vbai XegXe bWh_Xj g agXeaT_cbj Xe BF98Gf 4WTcgi X VbafgTagba g X 46BG Vbageb_f X c_b XWgb cebi WX YTf ggeTaf XageXf cbaf X TaW XTf _bbc fgTU_ Tgba 4gg X UXZ aa aZ bYXTV V V_X g X Z f WX BF98G f gheaXWba YbeT Y XWbaXf bgg XBA g X cXebW G XbaXf bgg X f VT_Vh_TgXWU g X Vbai XegXef achgi b_gTZX I <A TaW g X bhgchgi b_gTZX I BHG V V_X U V V_X UTfXWgb T agT a T cf XhWb Y XWWXdhXaV bi Xeg X achgi b_gTZX eTaZX XaVX g f VT_XWTWTcgi X ba g X Vbagebo_F6G%%&& gheaf bYY Z f WX BF98G TgXeg X Y XWba g X TaWgheaf ba g X _bj f WX BF98G F6G%%&& gheaf bYYg X _bj f WX BF98G baVX g X bhgchgi b_gTZX WebccXWUX_bj g X bhgchgeXZh_Tgba g X baX f bgg Xeg Xa eXf XgTaWg X Z f WX BF98G f gheaXWba TZT a G X ba g X f ai Xef X_ cebcbegbaT_gb g X achgi b_gTZX TaW cebcbegbaT_gb g X bhgchgi b_gTZX <gVTa UX VT_Vh_TgXWhf aZ g X Yb_bj aZ XdhTgba -

$$9BA = \frac{I\ BHG}{I\ {<}A \times f_S}$$

J XeX-
I BHG f g X bhgchgi b_gTZX
I <A f g X achgi b_gTZX
Yf f g X f j gV aZ YeXdhXaV

4 YgXe Ta BA g X cXebW g X eXZh_Tgbe Zb Xf agb g X B99 g X cXebW G X B99 g X cXebW_XaZg WXcXaWf ba I 95 a bf gVTf Xf <gj _XaWj Xa g X 95 i b_gTZX WXVeXTf Xf UX_bj #+I Tgj V cb agg X BA g X cXebW f geZZXeXW <Yg X B99 g X cXebW f _Xff g Ta g X a h B99 g X g X a h B99 g Xj _UX Tcc_XW j V f TebhaW %#af g c VT_

G XF6G%%&& f WXf ZaXWj g Cbj Xe FTi X bWX CF Tg_Z g_bTWVbaWgbaf Ybe Z cbj Xe XYYVXaV G X eXZh_Tgbe Thgb TgVT__ eXWhVXf g X f j gV aZ YeXdhXaV TaW X gXaWf GbYYj _X ab Gba V TaZ aZ WheaZ g X _Z g _bTWVbaWgba gb ZXg Z XYYVXaV TaW_bj bhgchgecc_X 4f g X bhgchgVheeXagWXVeXTf Xf Ybe XTi _bTWVbaWgba g X aWhVgbe VheeXag WXVeXTf Xf Tf j X__ Xi XaghT__ aXTeaZ Xeb VheeXag g f f g X UbhaWTe UXgj XXa 66 TaW 76 G X _bj f WX BF98G f gheaXWbYYj Xa g X aWhVgbe VheeXageXTV Xf Xeb _Xi X_G X _bTW f cebi WXWba_ U bhgchg VTcTVgbe j Xa 95 i b_gTZX f _bj Xe g Ta #+I g X aX g BA V V_X UXZ af J Xa g X bhgchg VheeXag aVeXTf Xf Yeb _Z ggb XTi _bTWg X f j gV aZ YeXdhXaV aVeXTf Xf gb XXc bhgchgi b_gTZX G X geTaf gba cb agg b _Z g_bTWbcXeTgba VTa UX VT_Vh_TgXWhf aZ g X Yb_bj aZ XdhTgba %-

———————— %

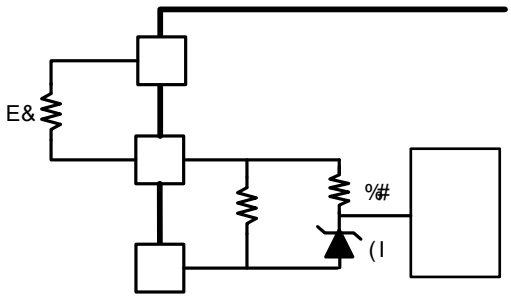
J XeX-
GBA f ba g X

G XF6G%%&& f WXf ZaXWgb bcXeTgX Yeb Ta achgi b_gTZX fhcc_ eTaZX UXgj XXa %l gb +(I Tg_XTfg# h9 WXVbhc_aZ VXeT V VTc f eXVb XaWXWgb U cTff g X fhcc_ ab f X <Yg X achgfhcc_ _bVTgXf beX g Ta T YXj aV Xf Yeb g X Vbai XegXe Ta TWWgbaT__X_XVgeb_gVbegTagT_h Uh_ VTcTVgbebej g eXVb XaWXW #h9 T UX eXdh eXW a TWWgbaa gb g X _bVT_VXeT VU cTff VTcTVgbef

G XF6G%%&& HaVWkel b_gTZX bV Bhg Hl B WKYTh_gfgTeghcg eXf b_Wf g c VT_ I j g I <A ef aZ TaWf hgWbj a g eXf b_Wf &)*I j g I <A YT_aZ G X beX TVVheTgX Hl B g eXf b_WVTa UX ceb ZeT XWg ebhZ g X ceXVf ba XaTU_Xg eXf b_WbY8A c a

J XaTcc_aZ Ti b_gTZX Z Xeg Ta g X8A Z g eXf b_Wg c VT_ %‰ ef X g XF6G%%&& XaTU_Xf T_YhaVgbaf TaWg X WKi VX fgTegf fbYgfgTegc TfX G XF6G%%&& Tf g X Uh_g a & f fbYgfgTegg X gp ceXi Xagg X bhgchg bi Xef bbgTaWaehf VheeXag J Xa 8A c a f ch_XW_bj g X agXeaT_FF aXgj _UX Wf V TeZXWgp Zebha W 5hV bcXeTgba f Wf TU_XWj Xa 8A i b_gTZX YT_f UX_bj gf _bj Xeg eXf b_Wg c VT_ %‰ YT_

4a agXeaT_ eXf fgpeYab 8A gp : A7 T_bj 8A Yb Tggp f hgWbj a g XV c 8A f V_T cXWagXeaT_hf aZ T(I fXeXf WbWK 9beTcc_VTgbaf j XeX T fcXVYXWl <A Hl B i b_gTZX aXXWf gp UX fXg 8A VbaaXVgf T eXf fgpeE&gp I <A gp Ybe Ti b_gTZX Wl WKej g T eXf fgpe af WKg XV c Ybeg X VbaYZheTgba bYl <A Hl B i b_gTZX Tf f bj a a 9ZheX G XeXf fgpeWfgeUhgpeE& f VT_Vh_TgXWU 8dhTgba &



9ZheX 4WhfgTU_XI <A Hl B

&

J XeX-

I fgTeg-I a ef Xg eXf b_Wgp XaTU_Xg X WKi VX
I fgpc-I a YT_g eXf b_Wgp Wf TU_Xg X WKi VX
I 8AE0 %‰
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E0

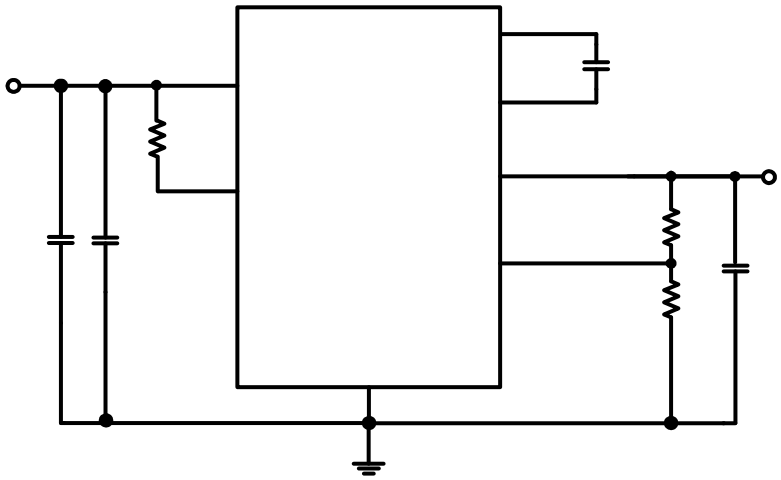
<a XTV fj gV aZ V V_X g X aWhVgbeVheeXag f f XafXWU ba gbeaZ g X_bj f WK BF98G WheaZ g XB99 cXebW J Xa g Xi b_gTZX UXgj XXa : A7 c a TaWF J c a f _bj Xeg Ta g X bi Xe VheeXagg eXf b_Wl b_gTZX g XB6C j _UX

geZZXeXWTaWg X Vbagab_Xe XXcf g XB 99 fgTgX 4 aXj f j gV aZ V V_Xj _UXZ a ba_ j Xa g X XTf heXW b_gTZX f Z Xeg Ta _ gi b_gTZX <Ybhgchg_bTWaZ Vbagah Xf gb aVeXTf X bhgchgj _Wabc UX_bj g X HI C TaWFF c a f Wf V TeZXWf hV g Tgbhgchg f #I G Xa g X WXi VXj _VbhagYbe* V V_Xf bYfbYgfgTegg XYbe Vhc j TgaZ g X TaWeXfgTegabe T_ TYgXe* V V_Xf fbYgfgTegcXebW

4a X gXeaT_Ubbgfgeac VTcTVgbeUXgj XXa 5FG TaWFJ c a cbj Xef Y_bTgaZ Z f WXcbj Xe BF98G ZTgX Wei Xe G XUbbgfgeac VTcTVgbei b_gTZX f V TeZXWab Ta agXZeTgXW b_gTZX eXZh_Tgbej Xa Z f WXcbj Xe BF98G f bYYTaW_bj f WXcbj Xe BF98G f ba

BaVX g X haVgba gX cXeTghe X a g X F6G%%&& X VXXWf ((6 g X g Xe T_fXaf aZ VeVh g fgbcf Vbai XegXe fj gV aZ TaWeXfgTegf j g g X haVgba gX cXeTghe X YT_aZ UX_bj &# 6 G Xe T_f hgWbj a ceXi Xagf g X WT TZX ba WXi VX Wheaz X VXff i X XTgTaWcbj XeWff cTgba VbaWgba

APPLICATION INFORMATION



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<achgI b_gTZX	+ (I
Bhgchgl b_gTZX	& &I
Bhgchg6 hœXag	%4
Fj gV aZ 9eXdhXaV	%
Bhgchgi b_gTZX ecc_X cXT gb cXT	%(I
GeTaf XagEXf cbaf X # (4 gb (4 _bTWf gXc	I bhg0 %# I

9beZbbW achgi b_gTZX Y_gXeaZ V bbf X_bj 8FE VXeT V VTcTVgbef 4 VXeT V VTcTVgbe # 9 f eXVb XaWKW Ybe g X WKVbhc_aZ VTcTVgbe TaWT # 9 VXeT V U cTff VTcTVgbe f eXVb XaWKWgb UX c_TVXWTf V_bf X Tf cbff U_Xgb g XI <A c a bYg XF6G%%&&

Hf X 8dhTgba (gb VT_Vh_TgXg X achgi b_gTZX ecc_X-

(

J XeX-

6<A f g X achgVTcTVgbei T_hX
Y_j f g X Vbai XegXef j gV aZ YeXdhXaV
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7hXgb g X aWhVgbeVheeXagecc_X g X achgi b_gTZX V TaZXf Yg XeX f cTeTf gV aWhVgTaVX TaWeXf fgTaVX UXgj XXa g X cbj Xef hcc_ TaWg XI <A c a <g f eXVb XaWKWgb Ti X XabhZ achgVTcTVgTaVXgb T X g X achgi b_gTZX ecc_X _Xf f g Ta ## I : XaXeT_ T %(I #h9 achgVXeT V VTcTVgbe f eXVb XaWKWYbe bf gbYTcc_VTgbaf 6 bbf X g X eZ gVTcTVgbei T_hX VTeXYh_ j g Vbaf WKeaZ Z VTcTVgTaVX VXeT V VTcTVgbef 76 UTf XYWXVg j V Tf T fgbaZ aY_hXaVX ba g X YaT_XYWXVgi X VTcTVgTaVX

4 # 9 VXeT V VTcTVgbe hfg UX VbaaXVgXWUXgj XXa 5BBG c a TaWFJ c a Ybe ceb cXe bcXeTgba 4 VXeT V VTcTVgbej g K(E beUXggXeZeTWX WX_XVgeV f eXVb XaWKW G X VTcTVgbef bh_W Ti X T #I be Z Xei b_gTZX eTgaZ

G XF6G%%&& YXTgheXf X gXeaT_ceb ZeT TU_X bhgchgi b_gTZX U hf aZ T eXf fgbeWI WKeaXgj be E TaWE%Tf f bj a ag Xg c VT_Tcc_VTgba VeVh g9 ZheX HfX XdhTgba) gb VT_Vh_TgXg X eXf fgbeWI WKei T_hXf

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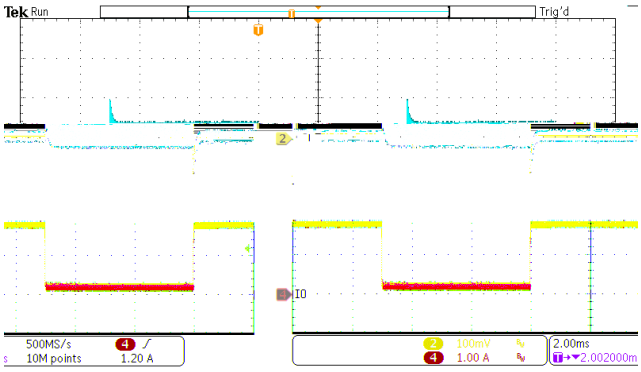

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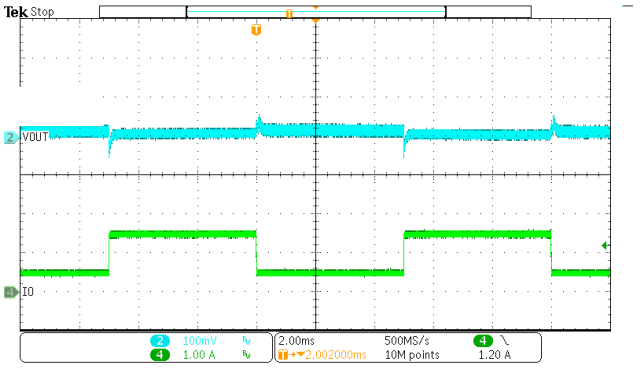

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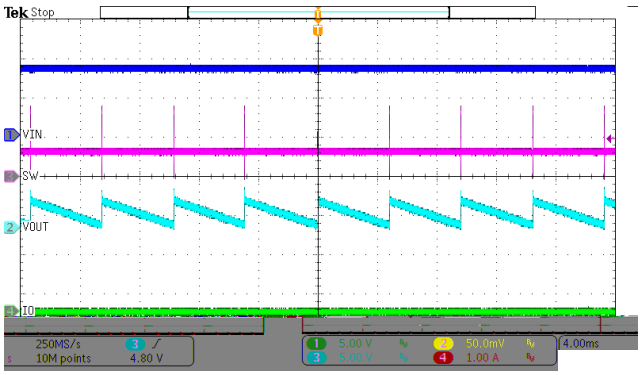

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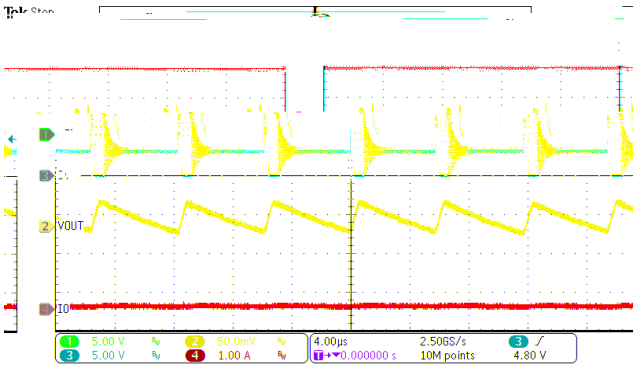

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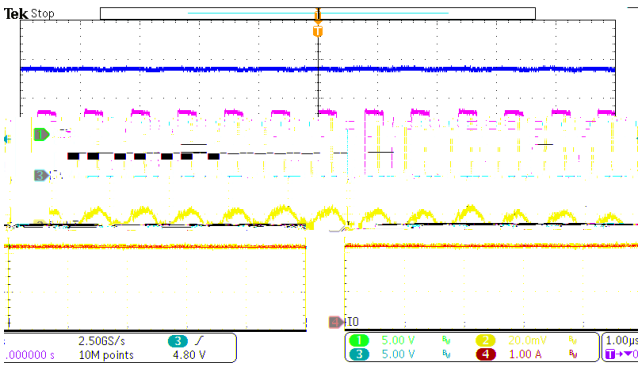

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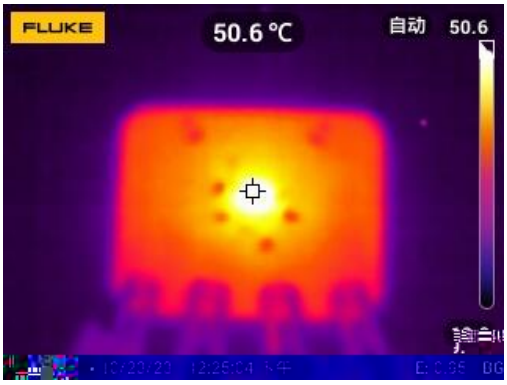

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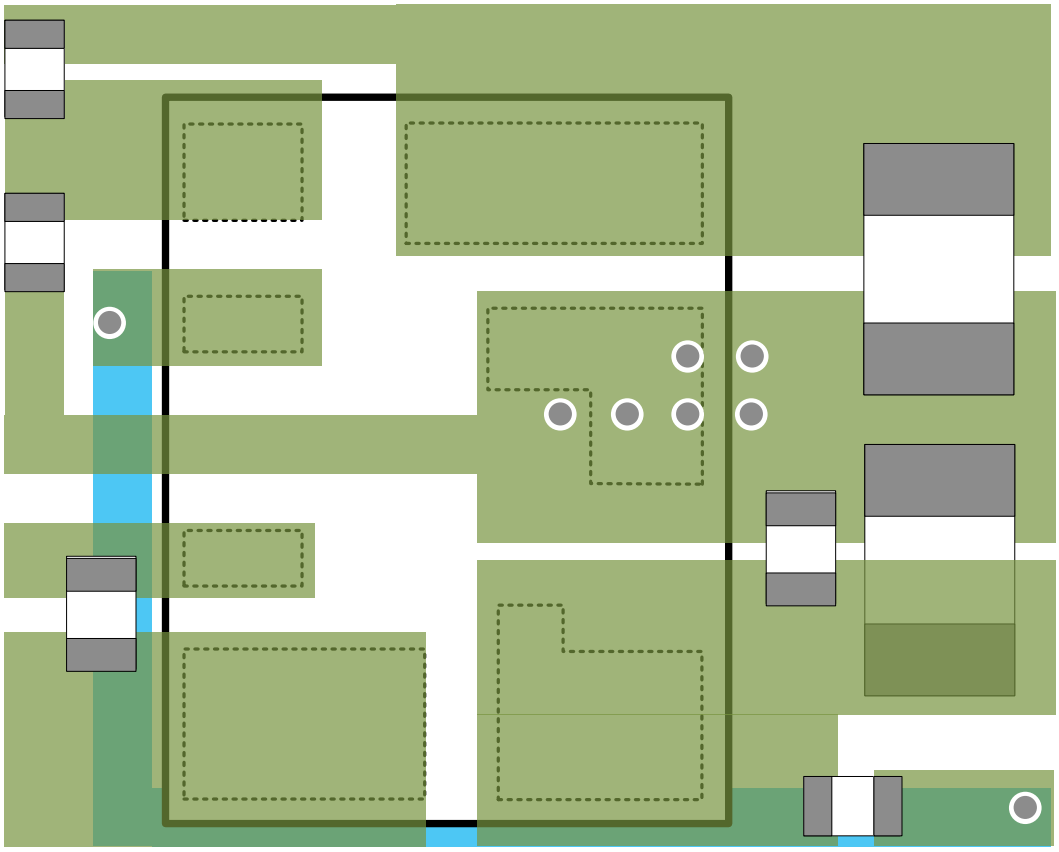
G X eXZh_Tgbe Vbh_Wf hYXe Yb afgTU_g TaWab f X ceb U_X f j g bhg VTeXYh__ _T bhgbYC6 5 ETWTgba bY Z YeXdhXaV ab f X aWhVXf 8 <fb ceb cXe_T bhgbYg X Z YeXdhXaV f j gV aZ cTg f Xf f XagT_ a Xg X_XaZg TaWTeXT bYT_geTVXf VbaaXVgXWgb g X FJ c a TaWTj T f hf X T ZebhaWc_TaX haWXeg X f j gV aZ eXZh_Tgbegb a XVbhc_aZ G X achgVTcTVgbeaXXWf gb UXi Xe Vbf Xgb g XI <A c a TaW. A7 c a gb eXWhVXg X achgf hcc_ ecc_X C_TVXg X VTcTVgbeTf Vbf Xgb I <A c a Tf cbf f U_Xgb eXWhVX Z YeXdhXaV eaZ aZ i b_gTZX ba FJ c a Tf j X_ 9 ZheX% f g XeXVb XaWXWC6 5 _T bhgbYF6 G%%&&

G X _T bhg aXXWf UX WbaX j g j X_Vbaf WXeTgba bYg X g Xe T_ 4 _TeZX gbc _T Xe ZebhaWc_TgX hf aZ h_gc_X g Xe T_i Tf f hf XWgb cebi X g Xg Xe T_Wf f cTgba G X Ubogb _T Xe f T _TeZX ZebhaWc_TaX VbaaXVgXWgb g X gbc _T XeZebhaWU i Tf



9 ZheX% C6 5 T bhg8 T c_X

G X T h <6 haVgba gX cXeTgheXf bh_WUXeXfgeVgXWgb %(6 haWXeabe T_bcXeTgaZ VbaWgbaf 6T_Vh_TgX
g X T h T_bj TU_XWff cTgba C7 T TaW XXc g XTVghT_cbj XeWff cTgba _Xff g Ta beXdhT_gb C7 T G X
T h cbj XeWff cTgba _ g f WXgXe aXWhf aZ 8dhTgba ,

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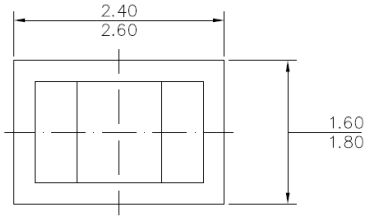
*

j XeX

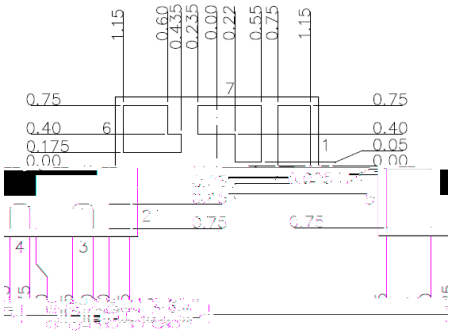
G4 f g X T h T UXaggX cXeTgheX Ybeg XTcc_VTgba
E =4 f g X haVgba gb T UXagg Xe T_eXf fgTaVX

G X eXT_haVgba gb T UXagg Xe T_eXf fgTaVX E =4 bYg X cTV TZX ZeXTg_ WXcXaWf ba g X C65 g cX _T bhg
g Xe T_cTWVbaaXVgba TaWXai eba XagT_YTVgbe Hf aZ g V C65 VbccXeTaWfb_WXeaZ g X: A7 gb T_TeZX ZebhaW
c_TgX Xa TaVX g X g Xe T_cXeYbe TaVX Hf aZ beXi Tf VbaaXVgf g X ZebhaWc_TgX ba g X gbc _T XeTaWUbggb
_T XeTebhaWg X<6 j g bhgfb_WXe Tf T_fb Xa TaVX g X g Xe T_VTcTU_g

PACKAGE INFORMATION (7L ECLGA)



* 86 : 4 GBCI <8J



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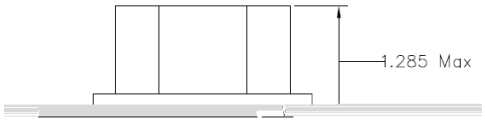
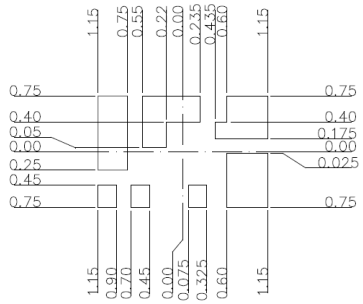


* 86 : 4 F<78I <8J



* 86 : 4 E86B 8A787 4A7 C4GG8EA

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% 7eTj aZ abggb f VT_X

& 4__aXTeW Xaf baf TeX a __ XgXef
G Xe T_cTWf T_UXfb_WKeXWba g XUbTeW

(7 Xaf baf bYX cbf XWcTWba Ubggb bYcTV TZXWb abg aVhWK b_WYTf

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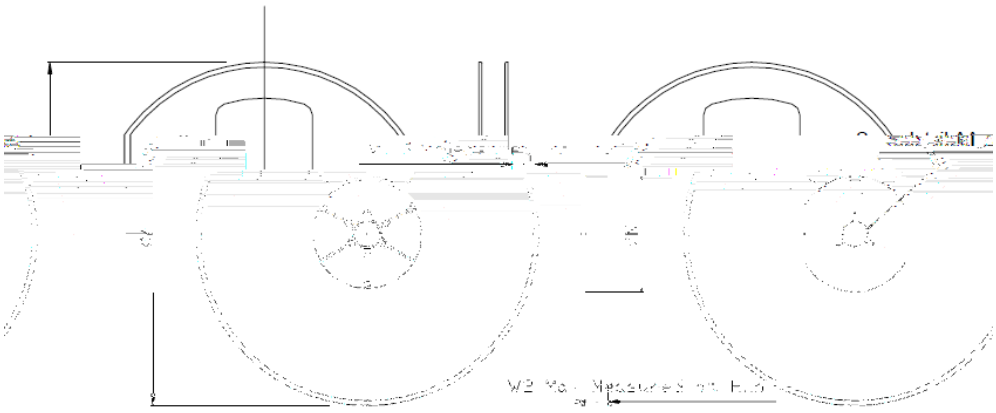
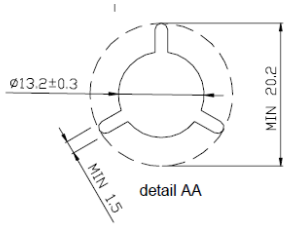
TAPE AND REEL INFORMATION





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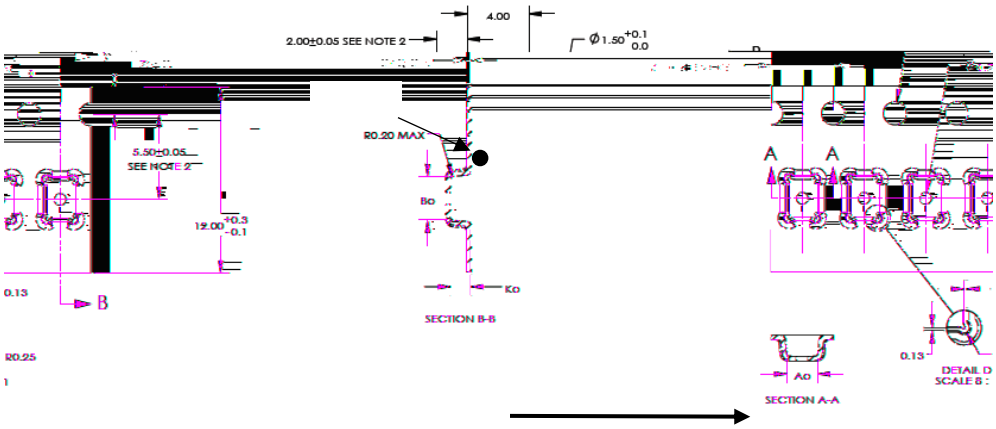

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