MEIRUIKE INSTRUMENT

Manual

RK283X LCR

:

I

(RANGE) 10
(SPEED) 11
(RSRC) 11
(CLEAR) 12

3.2 (BIN DISP) 12
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(COMP) 13
(COUNT)

HDL (HDL OUT) 24
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1.1

1.4

RK283X

RK283X

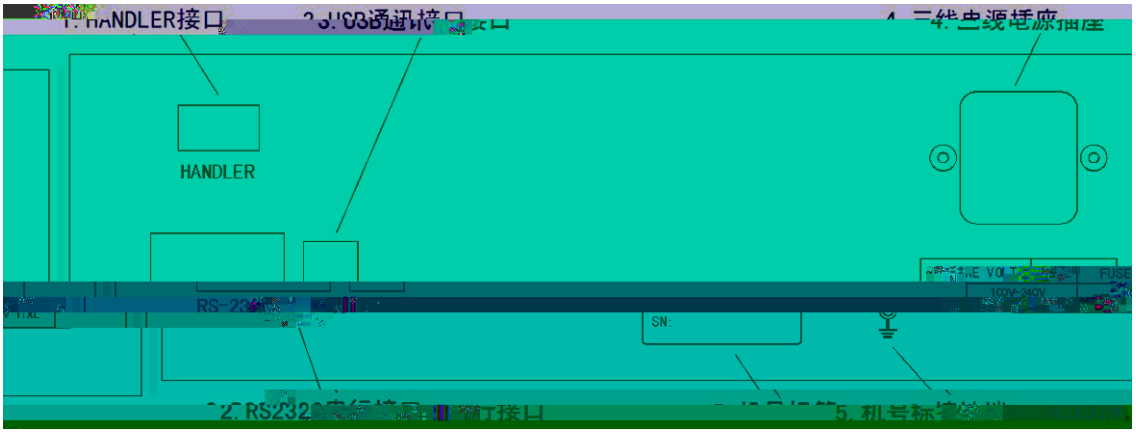
1.5

1

2.3

1		

12 CLEAR
“



2.5

LCD

1		
2		
3		U
4		
5		
6		
7		------
8		

Ÿ1y 2.6 ? Î

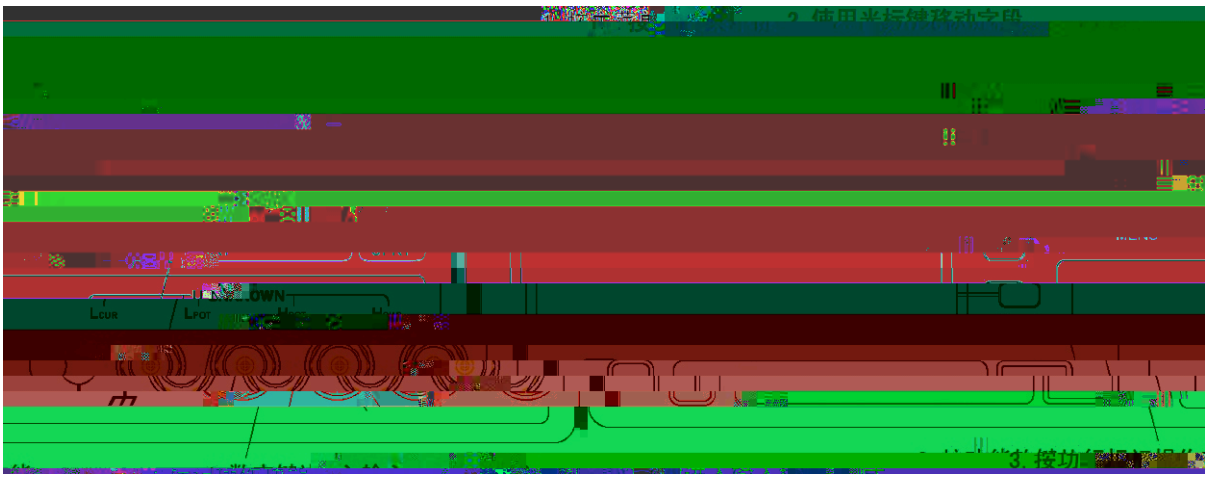
+

8

n/i?dK^ Å/iEÃ

FCEý ý L T ý kN¥M’

1



3.1 (MEAS DISP)

M EAS

(FUNC)	

(FREQ)

( )	
Cp	
Cs	
Lp	
Ls	
Rp	
Rs	
Z	
R	
X	
G	
B	
D	
Q	
θ	

〃 〃 〃 〃

LCD

LCD

RK283X 1~9

〃 〃 〃 〃

EASY

RK283X

“ ”

A

(D.P. FIX A) “ ”

B

(D.P. FIX B) “ ”

A

5 . ò V üïñ R™ ' ïŒB¦ÏÒà ÆL9W A•üÎvMÌïñÃBÑÁº+eJ? …)•.g Uóß A ` Îÿ …)•†$f ¦˜Oâ ÁL ±`C•gT MÝò V üïñ R“.DawÙ… !

10 100 300 1k 3k 10k 30k 100k

(SPEED)

→ AD → → → →

SLOW 2.5 /
MED 10 /
FA ST 40 /

(RSRC)

DUT

Rs

DUT Ⓥ Ⓐ

Vs Is

$$Idut = \frac{Vs}{|Rs + Rx + jXx|} \qquad Vdut = Vs - Idut \cdot Rs$$

$$Idut = \frac{Is \cdot Rs}{|Rs + Rx + jXx|} \qquad Vdut = (Is - Idut) \cdot Rs$$

100Ω 50Ω 30Ω 100Ω 30Ω 10Ω

(CLEAR) 12

(CLEAR) (CLEAR) (CLEAR) Ď CLEAR

(CLEAR)

1 (FUNC)
2 (NOM.)
3
4
5
6
7
8 (CORR) จ จ

<Limit Table>

(COMP)

“ ”

(ON)
(OFF)

able>

(COUNT)

RK283X 5 3 2
AUX OUT
999999 0
" (COUNT)" *
0
" "

(ON) *
(OFF)

" " " "

4.1

SCPI

RAM

〃 〃 〃 〃

1 〃 〃 % ABS SEQ

2 〃 〃 〃 〃

R 3 1-2 ( )

4

〃 〃 〃 〃

SCPI

*RST

SCPI

<Default>

ROM

〃 〃

( )

ê r t

i ℓ

4.2 (MEAS SETUP)

SETUP

(FUNC)	
(FREQ)	
(LEVEL)	
(RANGE)	
(SPEED)	
(DC BIAS)	LCR
(FUNC)	
(FREQ)	
(TRIG)	
(TRG DLY)	
LCR(AUTO LCR)	
(AVG)	
1(MON 1)	
2(MON 2)	
A(DEV A)	
A(REF A)	

EF

(TRIG)

RK283X INT MAN EXT DUT BUS

INT	
MAN	TRIG
EXT	BNC HANDLER 10us
DUT	DUT DUT 4
BUS	*1

*1. BUS

, 。

(DELAY)

0~60s ms

LCR (AUTO LCR)

LCR

Ls- Q Lp - Q
Cs - D Cp - D
Z - r
LCR OFF
DUT ! 。

(AVG)

N 1~255

1/ 2(MON 1 / MON 2)

4 LCD

Ē Ơ B

Vm

Z

mV RV)

(DEV)

S(=9 = 6

1 ABS

“ ”

ABS = X –Y

X

Y

2 %

“ ” %

% = X – Y / Y 100 %

( ) , 。

, !

4.3 (LIMIT TABLE)

HANDLER

SETUP “ ”

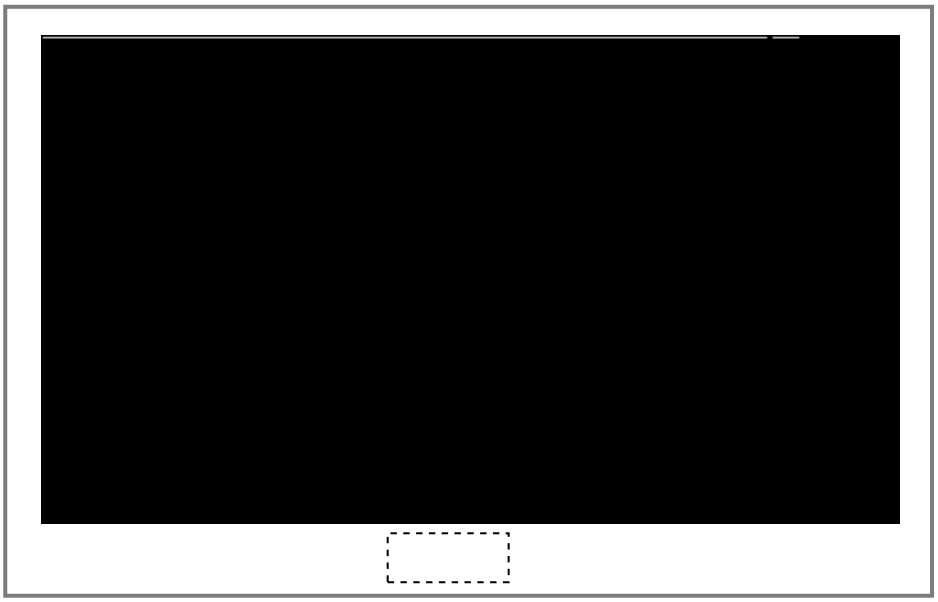
:

(FUNC)	
(NOM .)	
(MODE)	
(AUX)	
(COMP)	
TOOL	

3 1 3 BIN1 BIN3 (OUT)

AUX

HANDLER PHI PLO SREJ



(FUNC)

Cp - D

D - Cp D 3 Cp 1

5.1 (SYSTEM SETUP)

SYSTEM

SKIN	LCD

LANGUA

(SKIN)

LCD

(LANGUAGE)

(PASS ALARM)

(FAIL ALARM)

/ / PASS/FAIL

(KEY SOUND)

“ ”

“ ”

(PASSWORD)

“ ”

KEYLOCK( )

SYSTEM( ) Ĵ

(DATE & TIME)

CR

24 。

HDL (HDL EDGE)

(EXT) BNC HANDLER

10μs TTL

“HDL ” (RISE) (FAIL)

HDL (HDL OUT)

HANDLER

“HDL ” HANDLER

HOLD

CLEAR “HDL ”

HDL (HDL DLY)

HANDLER “ ” 0-60s

“HDL ”

(BUS MOD E)

RS232C USB(DEVICE) PC SCPI

: , “RK2837 LCR 。

RS232C UART PLC

USB(DEVICE) USB - CDC USB - TMC

USB - CDC COM Vcom

RS232C

USB - TMC USBTMC - USB488 USB2.0

GPIB

(BUS ADDR)

GPIB GPIB 0 ~ 30

5.2

[redacted]

USB FAT16 FAT32 FAT16 FAT32
U U

USB U 。

6.2 U

USB U
“

U

PC

“
CSV TXT

CR

U
CS

1 SYSTEM < > " " CSV
2 U U "
" SAVE U

3
2 U
4 - U
5 " " SAVE
U
U U U U
EULCR000~EULC R199 , ;
U , 。

U

U
GIF/BMP/PNG U
PC

1 SYSTE M < > " " GIF
BMP PNG
2 U U
3
4 SAVE " "
U
EULCR000~EULCR199 , 。

6.3 (FILE LIST)

RAM	0	
FLASH ROM	1~50	
USB	51~550	\RK283X\SETUP *1 51.EST~550.EST

〈文件列表〉
存储器:ROM
加载
序号 名称
日期
1 . ABCabc
2013-06-08 11:02

$$Qe = \frac{Q_x \quad D_e}{1 \quad Q_x \quad D_e}$$

Qx Q

De D

Qx × De < 1

$$e = \frac{180}{} \quad \frac{A_e}{100} \qquad [deg]$$

Ae |Z| |Y| L C R X G B

G

G

Ge = Bx De [S]

Bx = $2\pi fCx$ =

Dx D

Bx B [S]

De D

f [Hz]

Cx C [F]

Lx L [H]

Rp

Dx D ≤ 0.1

Rp

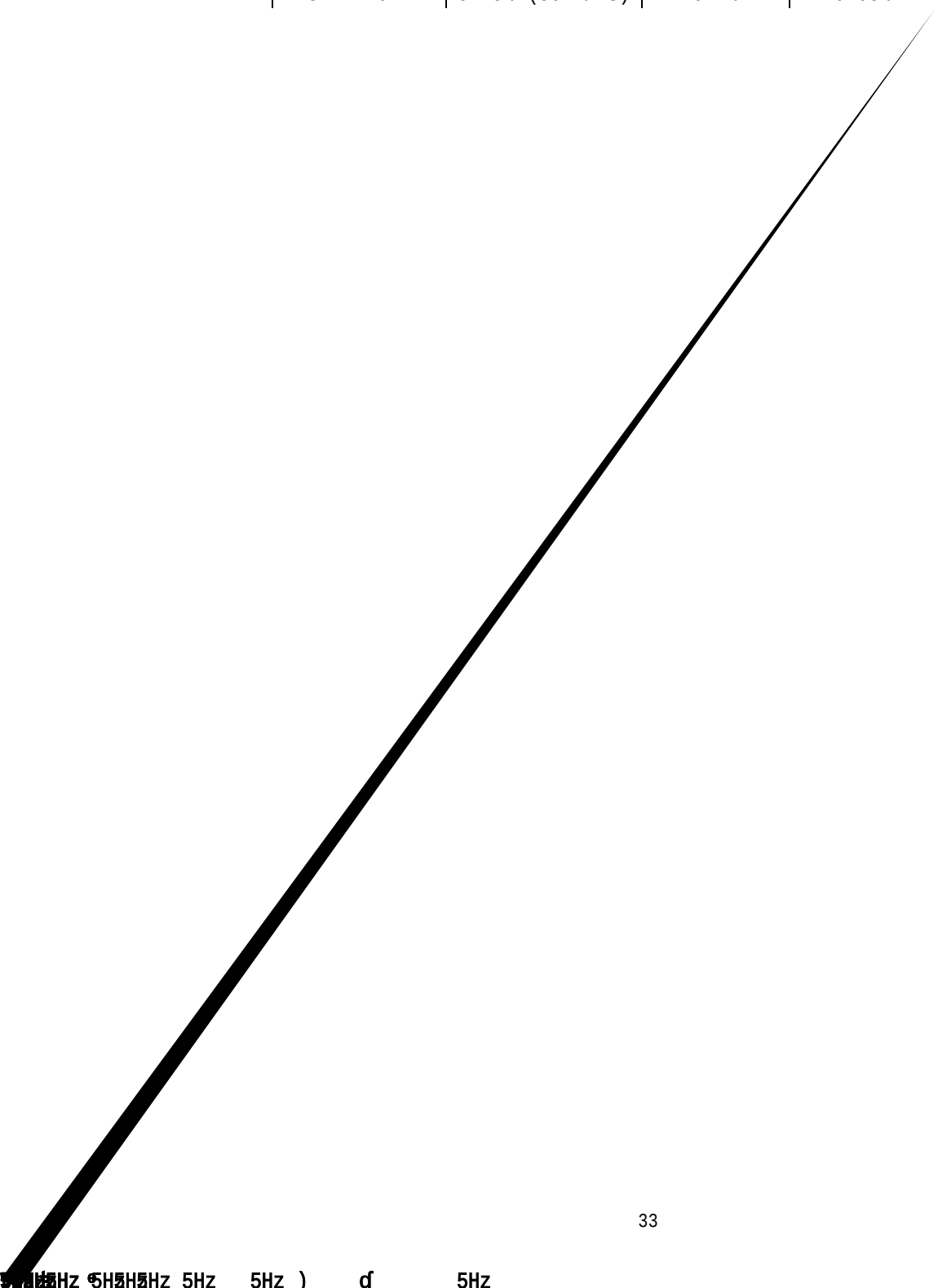
$$Rp = \frac{R_{px} \quad D_e}{D_x \quad D_e} \qquad [\ ]$$

Rpx Rp [ ]

Cx C [F]
Lx L [H]
De D
f [Hz]

Ab

	5mV 50mV	50mV 0.2V	0.2V 0.6V	0.6V 2V
20Hz 125Hz	0.3% (50mV/Vs)	0.15%	0.1%	0.08%
125Hz 110kHz	0.15% (50mV/Vs)	0.1%	0.08%	0.05%



Zo

20Hz 125Hz	2M	5M
125Hz 22kHz	5M	8M
22kHz 110kHz	1M	1.6M
110kHz 200kHz	300k	500k

Vs<1 Zo Vs

Zo

	0m	1m	2m	4m
20Hz 22kHz	1	1	0.8	0.5
22kHz 110kHz	1	0.8	0.5	0.2
110kHz 200kHz	1	0.5	0.25	0.1

Zs

20Hz 55Hz	10	3
55Hz 125Hz	3	1
125Hz 1.1kHz	1.8	660m
1.1kHz 11kHz	1m	330m
11kHz 200kHz	330m	110m

Vs<1 Zs Vs

Zs

	0m	1m	2m	4m
20Hz 22kHz	1	1	1.2	2
22kHz 110kHz	1	1.2	1.5	3
110kHz 200kHz	1	2	5	10

Kt

7.2

		100pF 1000pF	

0.02

1

0.02

D

	-20 ℃ 70 ℃
≤60 ° C	0% 90% RH
	0 m 4500 m

× × 280*88*350 (mm)

3.5kg

I

(1)

50M

2M

(2)

1.5kV 50Hz

1

(3)

3.5mA

(1) GB6833.4

(2) GB6833.6

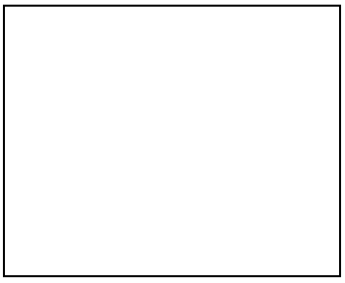
(3) GB6833.10

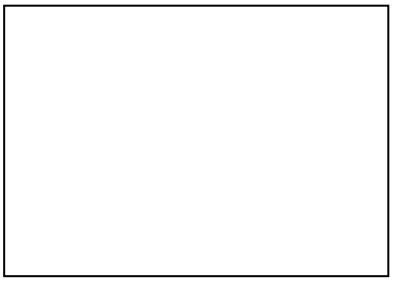
A

RS232C USB-CDC USB-TMC
SCPI
“ RK283X LCR
”

A .1 RS232C

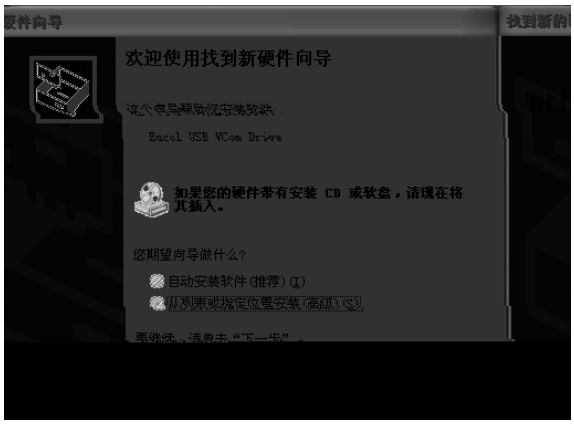
RS232C





RS232C

	1200bps 9600bps 19200bps 38400bps 115200bps
	8 BIT



p:

RS232C

USB - TMC

USB - TMC NIhttp: (http://www.ni.com/chi w.ni.com/chihttp:

http:

Æ ㄱ

A .3

ASCII

" " NL 0x0A ^END

IEEE - 488 EOI GPIB

EOI RS232C USB - CDC USB - TMC

<DATA A> <DATA B> <STATUS> <BIN No.>

<DATA A> <DATA B>

<DATA A> <DATA B> 12

ASCII

SN.NNNNNESNN S +/- N 0 9 E

<STATUS> 0

<BIN No.>

0	
1~3	BIN1~ 3

10 OUT

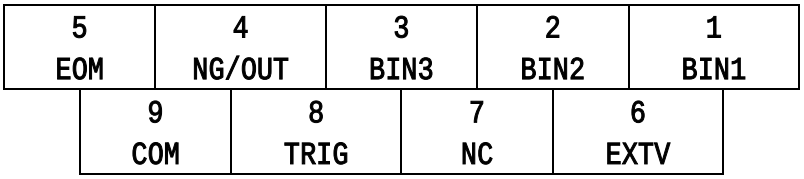
+9.90000E+37,+9.90000E+37,-1,

C.2

RK283X HAN DLER DB9

1	/BIN1	1
2	/BIN2	2
3	/BIN3	3
4	/NG(OUT)	
5	/EOM	
6	EXTV	/
7	NC	
8	/TRIG	
9	COM	

HANDLER DB9



C.3

HANDLER HANDLER

HANDLER

HANDLER

RK283X 5~24V PLC

Rk283X HANDLER

HANDLER

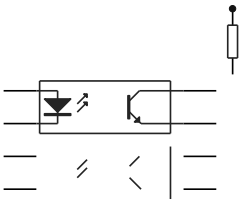
J1 J2

HANDLER +5V

EXV +5 +24V

/BIN1-3 /NG(OUT)	≤ 0.5V	+5V +24V	6mA	: GND EXV COM
/EOM	≤ 0.5V	+5V +24V	6mA	GND EXV COM

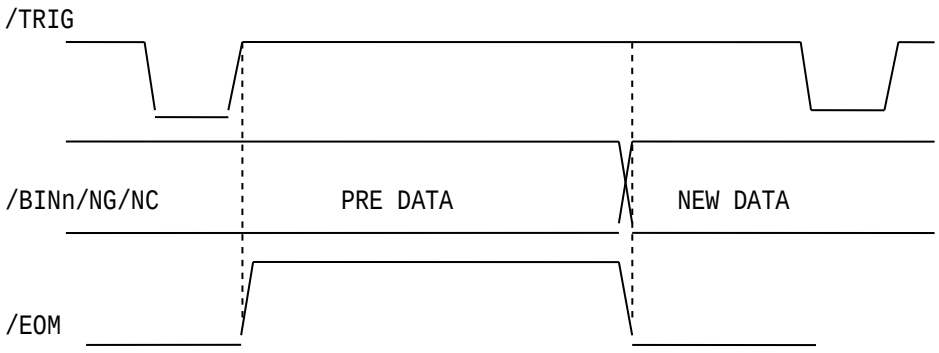
:



/TRIG BNC

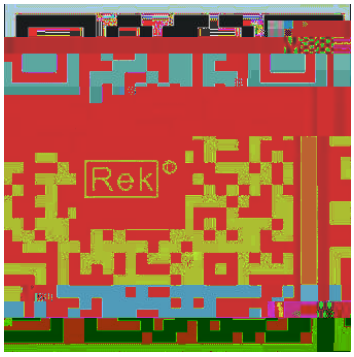
LED 5mA LED
5V EXV +5~+24V U2 836 1.2k
12V

C.3



>10us

1	l
2	1
3	1
4	1
5	1



技术部