

## LCD DRIVER/CONTROLLER SERIES LINE-UP

### 1. CHARACTER/SEGMENT TYPE LCD CONTROLLER DRIVER

CHARACTER/SEGMENT TYPE LCD CONTROLLER/DRIVER LINE-UP is in the following.

#### (1)LINE-UP

Type No.	FUNCTION	FEATURES	PACKAGE
NJU6460A	16-Character/1-line Dot Matrix LCD Controller Driver	LCD Driving Voltage 5.0V Shift Clock 2MHz Character Generator ROM 7,680bitz Rectangle Outlook for COG	BUMPED CHIP
NJU6408B NJU6468	8-character/2-line Dot Matrix LCD Controller Driver With Extension Function	The Display Capacity up to 40-character 2-line LCD Driving Voltage 13.5V Shift Clock 2MHz Character Generator ROM 12,000bits 3V Operation (NJU6468 only)	CHIP QFP-80
NJU6420B	16-character/2-line Dot Matrix LCD Controller Driver	Voltage Doubler Incorporated Oscillation Circuit Incorporated (NJU6406B Require External Resistance or Ceramic Resonator)	CHIP QFP-100
NJU6423B	20-character/2-line Dot Matrix LCD Controller Driver	Bleeder Resistance Incorporated (NJU6406B,NJU6425 and NJU6427 Required Ext. Bleeder Resist.)	CHIP QFP-100 TCP
NJU6406B NJU6466	24-character/2-line Dot Matrix LCD Controller Driver	LCD Driving Voltage 13.5V Shift Clock 2MHz Character Generator ROM 9,600bits Operating Voltage 3V or 5V	CHIP BUMPED CHIP TCP
NJU6425	10-character/3-line Dot Matrix LCD Controller Driver With Icon Display and Extension Function	5V(NJU6436 only) Extension Function(NJU6426 only) Icon Display Function(NJU6426 only) Low Power Consumption Hardware Reset Function(NJU6426 only) Duty Ratio Selection(except NJU6426)	CHIP QFP-100
NJU6427	10-character/3-line+1segment Dot Matrix LCD Controller Driver With Icon Display and Extension Function		
NJU6426	8-character/4-line Dot Matrix LCD Controller Driver With Icon Display and Extension Function		CHIP QFP-100
NJU6424A/B	12-Character/1-line Dot Matrix LCD Controller Driver With Smooth Scroll	LCD Driving Voltage 10.0V Serial Interface only 1MHz Character Generator ROM 7,840bits Icon Display Function Up to 60Icons Key Scan Function	CHIP QFP-100
NJU6467	12-Character/1-line Dot Matrix LCD Controller Driver With Icon Display	LCD Driving Voltage 13.5V Serial Interface only 1MHz Character Generator ROM 7,840bits Icon Display Function Up to 60Icons Key Scan Function 3V Operation	CHIP QFP-64

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Type No.	FUNCTION	FEATURES	PACKAGE
NJU6428/29 Series	12-character/2-line Dot Matrix LCD Controller Driver With Icon Display	Voltage Tripler Incorporated 3.0V Operation Extremely Low Operating Current Icon Display Function (Up to 60 Icons/NJU6428/29,NJU6469 and NJU6461) (Up to 100 Icons/NJU6424) (Up to 128 Icons/NJU6465 and NJU6620)	CHIP QFP-100 TCP
NJU6469 Series		CHIP QFP-100	
NJU6461		BUMPED CHIP TCP	
NJU6424	10-character/3-line Dot Matrix LCD Controller Driver With Icon Display	(Up to 152 Icons/NJU6464) Hardware Reset Bias Control Circuit of Voltage Follower On-Chip (NJU6424 only)	CHIP QFP-100
NJU6464	16-character/3-line Dot Matrix LCD Controller Driver With Icon Display	Serial and parallel Direct Interface (NJU6461,NJU6464,NJU6465 and NJU6620) Software Contrast Control (NJU6464,NJU6465 and NJU6620)	BUMPED CHIP TCP
NJU6465 NJU6620	12-character/4-line Dot Matrix LCD Controller Driver	Com/Seg driver Location order Select Function (NJU6464,NJU6465 and NJU6620) Rectangle outlook for COG (NJU6461,NJU6464 and NJU6465,NJU6620)	BUMPED CHIP
NJU6637	16-character/3-line Dot Matrix LCD Controller Driver	LCD Driving Voltage      6.0V Serial Interface only      1MHz Character Generator ROM    10,200bits Operating Voltage          3V	BUMPED CHIP
NJU6624C	14-character/1-line Dot Matrix LCD Controller Driver	LCD Driving Voltage      10.0V Serial Interface only      1MHz Character Generator ROM    7,840bits Icon Display Function      Up to 70 Icons Key Scan Function	QFP-100
NJU6520	14-character/2-line Dot Matrix LCD Controller Driver with Icon Display and Smooth Scroll	Voltage Tripler Incorporated Logic Operating Voltage      3.0V Low Operating Current Icon Display Function      Up to 84 Icons Hardware Reset Serial Interface Software Contrast Control Smooth Scroll Function Rectangle outlook for COG	BUMPED CHIP
NJU6470	16-character/1-line Dot Matrix LCD Controller Driver with Icon Display and Key Scan	Bleeder Resistance On-chip LCD Driving Voltage      5.0V Icon Display Function      Up to 80Icons Hardware Reset Serial Interface only Key Scan Function General Output Port	CHIP QFP-100
NJU6407C NJU6407CR	Dot Matrix LCD 40-out Segment Driver	Shift Clock      3.3MHz Extension Driver Mirror Inversed Pin Configuration(NJU6407CR)	CHIP QFP-56
NJU6417C	Dot Matrix LCD 64-out Segment Driver	Shift Clock      6MHz Extension Driver	CHIP QFP-80
NJU6415/16 NJU6445/46	Dot Matrix LCD 80-out Segment Driver	Shift Clock      6MHz Extension Driver	CHIP QFP-100
NJU6432B	1/2 Duty LCD Driver	53 Segment Drivers Duty Ratio 1/2 ; 104-Segment Drivers	BUMPED CHIP CHIP QFP-64

## LCD DRIVER/CONTROLLER SERIES LINE-UP

Type No.	FUNCTION	FEATURES	PACKAGE
NJU6433	1/4 Duty LCD Driver	50 Segment Drivers Duty Ratio 1/2 ; 200-Segment Drivers	BUMPED CHIP CHIP QFP-64
NJU6435 Series	1/2,1/3 Duty LCD Driver with Key Scan	40 Segment Drivers Duty Ratio (1/2 ; 200-Segment Drivers, 1/3 ; 120-Segment Drivers) 30 Key Scan Function (6-Out x 5-In Matrix)	CHIP QFP-64
NJU6535	1/3,1/4 Duty LCD Driver with Key Scan	42/41 Segment Drivers Duty Ratio(max.) (1/3 ; 126-Segment Drivers, 1/4 ; 164-Segment Drivers) 30 Key Scan Function (6-Out x 5-In Matrix) LED Driver Function	QFP-64
NJU6436	1/4 Duty LCD Driver with Key Scan	60 Segment Drivers Duty Ratio 1/4 ; 240-Segment Drivers 30 Key Scan Function (6-Out x 5-In Matrix) LED Driver Function Ir Receiving Function	CHIP QFP-100
NJU6437	1/4 Duty LCD Driver	32 Segment Drivers Duty Ratio 1/4 ; 128-Segment Drivers Rectangle outlook for COG	BUMPED CHIP TCP
NJU6438 NJU6439	1/4 Duty LCD Driver <sup>2</sup> I C Bus Interface(NJU6438) Serial Interface(NJU6439)	40-Segment Drivers Duty Ratio 1/4 ; 160-Segment Drivers <sup>2</sup> I C Bus Interface(NJU6438) Serial Interface(NJU6439) Rectangle outlook for COG	BUMPED CHIP

## LCD DRIVER/CONTROLLER SERIES LINE-UP

(2) SPECIFICATION COMPARATIVE TABLE

Type No.	NJU6460A	NJU6408B NJU6468	NJU6420B	NJU6423B	NJU6466 NJU6406B	NJU6425
Display Capacity	16Cx1L	8Cx2L	16Cx2L	20Cx2L	24Cx2L	10Cx3L
Extension Function	-	40Cx2L	-	-	-	-
LCD Driving Voltage	5.0V	13.5V	13.5V	13.5V	13.5V	13.5V
Oscillation Frequency	2MHz	2 MHz	2 MHz	2 MHz	2 MHz	2 MHz
CG ROM Size	7,680	12,000	9,600	9,600	9,600	9,600
Voltage Converter	-	-	Doubler	Doubler	Doubler	Doubler
Oscillation Circuits	Internal R Internal C	External R or Ceramic	Internal R Internal C	Internal R Internal C	External R or Ceramic	Internal R Internal C
Bleeder Resistance	On-chip	Ext	On-chip	On-chip	Ext	Ext
Icon Display Function	-	-	-	-	-	-
Character Font Size	5 x 7	5 x 7 / 5 x 10	5 x 7	5 x 7	5 x 7	5 x 7
Duty	1/16	1/8, 1/11 1/16	1/16, 1/32	1/16, 1/32	1/16, 1/32	1/16, 1/32

Type No.	NJU6427	NJU6426	NJU6624A/B	NJU6467	NJU6428/29	NJU6469
Display Capacity	10Cx3L	8Cx4L	12Cx1L	12Cx1L	12Cx2L	12Cx2L
Extension Function	-	24Cx4L	-	-	-	-
LCD Driving Voltage	13.5V	13.5V	10.0V	13.5V	13.5V	10.0V
Oscillation Frequency	2 MHz	2 MHz	1 MHz	1 MHz	1 MHz	1 MHz
CG ROM Size	9,600	9,600	7,840	7,680	9,600	9,600
Voltage Converter	Doubler	Doubler	-	-	Tripler	Tripler
Oscillation Circuits	Internal R Internal C	Internal R Internal C	Internal R Internal C	Internal R Internal C	Internal R Internal C	Internal R Internal C
Bleeder Resistance	Ext	On-chip	On-chip	On-chip	On-chip	On-chip
Icon Display Function	Use Segment	Have	Have	Have	Have	Have
Character Font Size	5 x 7	5 x 7	5 x 7	5 x 7	5 x 7	5 x 7
Duty	1/16, 1/32	1/36	1/8	1/18	1/18, 2/18	1/18, 2/18

Type No.	NJU6461	NJU6424	NJU6464	NJU6465	NJU6620	NJU6637
Display Capacity	12Cx2L	10Cx3L	16Cx3L	12Cx4L	12Cx4L	16Cx3L
Extension Function	-	-	-	-	-	-
LCD Driving Voltage	13.5V	13.5V	10.0V	10.8V	10.0V	6.0V
Oscillation Frequency	1 MHz	1 MHz	1 MHz	1 MHz	1 MHz	1 MHz
CG ROM Size	9,600	9,600	10,080	10,080	10,080	10,200
Voltage Converter	Tripler	Tripler	Tripler	Tripler	Tripler	-
Oscillation Circuits	Internal R Internal C	Internal R Internal C	Internal R Internal C	Internal R Internal C	Internal R Internal C	Internal R Internal C
Bleeder Resistance	On-chip	On-chip	On-chip	On-chip	On-chip	On-chip
Icon Display Function	Have	Have	Have	Have	Have	-
Character Font Size	5 x 7	5 x 7	5 x 7	5 x 7	5 x 7	5 x 7
Duty	1/18, 2/18	1/26	1/28	1/36	1/36	1/24

## LCD DRIVER/CONTROLLER SERIES LINE-UP

Item \ Type No.	NJU6624C	NJU6520	NJU6470
Display Capacity	14Cx1L	14Cx2L	16Cx1L
Extension Function	-	-	-
LCD Driving Voltage	10.0V	10.8V	7.0V
Oscillation Frequency	1 MHz	1 MHz	1 MHz
CG ROM Size	7,840	7,680	7,680
Voltage Converter	-	Tripler	-
Oscillation Circuits	Internal R Internal C	Internal R	External R
Bleeder Resistance	On-chip	On-chip	On-chip
Icon Display Function	Have	Have	Have
Character Font Size	5 x 7	5 x 7	5 x 7
Duty	1/8	1/9,1/18	1/18

## LCD DRIVER/CONTROLLER SERIES LINE-UP

### (3)SELECTION GUIDE CHARACTER TYPE

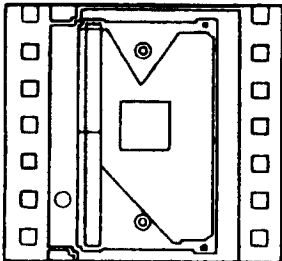
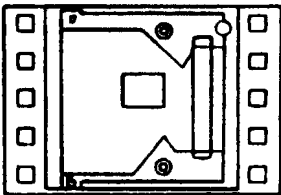
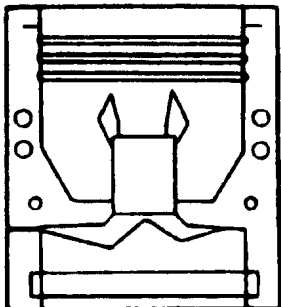
Display	1Line	2Line	3Line	4Line
8 character	NJU6408B NJU6468	NJU6408B NJU6468	-	NJU6420B NJU6426
10 character	NJU6467 NJU6428/29 NJU6469	NJU6423B/BL/BS NJU6425 NJU6427	NJU6424 NJU6425 NJU6427	NJU6423B/BL/BS
12 character	NJU6467 NJU6428/29 NJU6469 NJU6624A/B	NJU6406B NJU6428/29 NJU6461 NJU6466 NJU6469	-	NJU6406B NJU6466 NJU6465 NJU6620
14 character	NJU6624C	NJU6520	-	-
16 character	NJU6408B NJU6468 NJU6420B NJU6460A NJU6470	NJU6420B NJU6426	NJU6464 NJU6637	NJU6426+NJU6407C
20 character	NJU6423B/BL/BS	NJU6423B/BL/BS	-	NJU6426+NJU6417C
24 character	NJU6406B NJU6466 NJU6428/29 NJU6469	NJU6406B NJU6466 NJU6465	-	NJU6426+NJU6416
40 character	NJU6423B/BL/BS	NJU6408B+6407Cx4 NJU6468+6407Cx4	-	-
80 character	NJU6408B+6407Cx9 NJU6468+6407Cx9	-	-	-

### SEGMENT TYPE

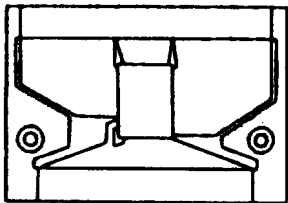
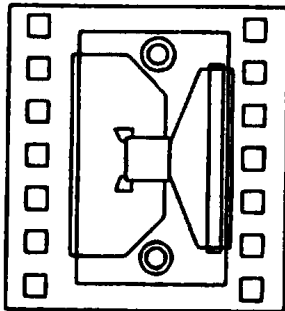
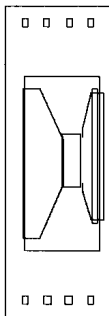
Display	80 SEG	104 SEG	120 SEG	126 SEG	128 SEG	160 SEG	164 SEG	200 SEG	240 SEG
1/2 Duty	NJU6435	NJU6432B	-	-	-	-	-	-	-
1/3 Duty	-	-	NJU6435	NJU6535	-	-	-	-	-
1/4 Duty	-	-	-	-	NJU6437	NJU6438 NJU6439	NJU6535	NJU6433	NJU6436

## LCD DRIVER/CONTROLLER SERIES LINE-UP

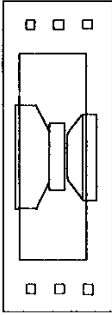
### (4) STANDARD TCP

Type No. Item	NJU6423BXH01-XX	NJU6423BXH02-XX	NJU6406BH01P-XX
Out Line of TCP			
Size(mm)	28.3 x 15.0	17.5 x 20.0	28.0 x 25.0
Chip Mount	Face Down	Face Down	Face Down
Display Capacity	10-Character 2-Line	10-Character 2-Line	24-Character 2-Line
Common Driver	15-Common (COM1-8,COM9-15)	15-Common (COM1-7,COM9-15,17)	32-Common
Segment Driver	50-Segment	50-Segment	60-Segment
Duty	1/16	1/16,1/32	1/16,1/32
Interface	4/8 bit Parallel	4/8 bit Parallel	4/8 bit Parallel
Packing	Reel Packing	Reel Packing	Tray Packing
TCP Folding	No Guarantee	No Guarantee	Guarantee

Type No. Item	NJU6428XH05-XX	NJU6406BH06-XX NJU6466H06-XX	NJU6461H01-XX
Out Line of TCP			
Size(mm)	15.5 x 22.0	28.0 x 20.0	23.5 x 12.6
Chip Mount	Face Down	Face Down	Face Up
Display Capacity	12-Character 2-Line	24-Character 2-Line	12-Character 2-Line
Common Driver	17-Common (COM1-8,COM9-16,COMMK)	32-Common	18-Common (COM1-16,COMMK1-2)
Segment Driver	60-Segment	60-Segment	60-Segment
Duty	1/18	1/16,1/32	1/18
Interface	4/8 bit Parallel	4/8 bit Parallel	4/8 bit Parallel/Serial
Packing	Reel and Tray Packing	Reel Packing	Reel Packing
TCP Folding	No Guarantee	No Guarantee	No Guarantee

## LCD DRIVER/CONTROLLER SERIES LINE-UP

Item	Type No.
	NJU6437H01
Out Line of TCP	
Size(mm)	25.0 X 11.55
Chip Mount	Face Up
Display Capacity	128 Segment
Common Driver	4-Common (COM1-4)
Segment Driver	32-Common (SEG1-32)
Duty	1/4
Interface	Serial
Packing	Reel
TCP Folding	No Guarantee

·The above TCPs are standard products, therefore initial cost(for development) is not required.  
 In case of the custom TCP, please consult with New Japan Radio about initial cost.