

<b>SANYO</b>	No.1042F	<b>LB1211 Series</b>
		<b>General-Purpose Transistor Array</b>

The LB1211 series are general-purpose transistor arrays containing 7 channels (5 channels : LB1217 only). They are especially suited for driving LEDs, lamps, small-sized relays, etc. The transistors can be standardized.

### Features

- Common-emitter 7 channels. LB1211,1212,1213,1214
- Common-collector 7 channels. LB1215,1216
- Independent 5 channels. LB1217
- Built-in base current limiting resistors. LB1212,1213,1214,1216
- Built-in Zener diodes for level shift. LB1212
- Capable of being direct driven with TTL, CMOS, PMOS, etc.
- Wide operating voltage and temperature ranges

### Absolute Maximum Ratings at Ta = 25°C

				unit
Output Supply Voltage	V <sub>OUT</sub>	LB1212/13/14 only	-0.5 to +50	V
Collector to Emitter Voltage	V <sub>CEO</sub>	LB1211/15/16/17 only	35	V
Collector to Base Voltage	V <sub>CBO</sub>	LB1211/15/16/17 only	50	V
Output Current	I <sub>OUT</sub>		200	mA
Input Voltage	V <sub>IN1</sub>	LB1212/13/14 only	-0.5 to +30	V
	V <sub>IN2</sub>	LB1216 only	-0.5 to +45	V
Input Current	I <sub>IN</sub>	LB1211/15/17 only	25	mA
GND Pin Current	I <sub>GND</sub>		500	mA
Allowable Power Dissipation	P <sub>d max</sub>		960	mW
Operating Temperature	T <sub>opr</sub>		-20 to +75	°C
Storage Temperature	T <sub>stg</sub>		-40 to +150	°C

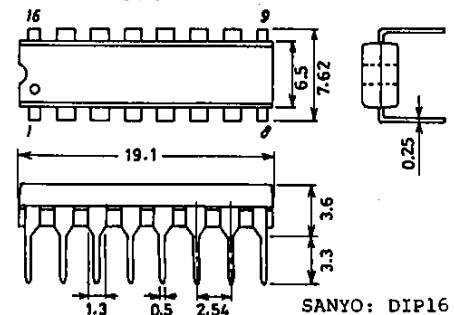
### Electrical Characteristics at Ta = 25°C

			min	typ	max	unit
Output Voltage	V <sub>OUT1</sub>	I <sub>IN</sub> = 1mA, I <sub>OUT</sub> = 10mA			0.2	V
	V <sub>OUT2</sub>	I <sub>IN</sub> = 2mA, I <sub>OUT</sub> = 100mA			0.8	V
	V <sub>OUT3</sub>	I <sub>IN</sub> = 3mA, I <sub>OUT</sub> = 100mA			0.8	V
Output Leakage Current	I <sub>OFF</sub>	V <sub>IN</sub> = 0V, V <sub>OUT</sub> = 25V			10	μA
Output Sustain Voltage	V <sub>OUT (sus)</sub>	I <sub>OUT</sub> = 100mA	35			V
DC Current Gain	h <sub>FE1</sub>	V <sub>OUT</sub> = 10V, I <sub>OUT</sub> = 10mA	50		500	
	h <sub>FE2</sub>	V <sub>OUT</sub> = 10V, I <sub>OUT</sub> = 10mA	70		500	

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### Package Dimensions 3064

(unit : mm)



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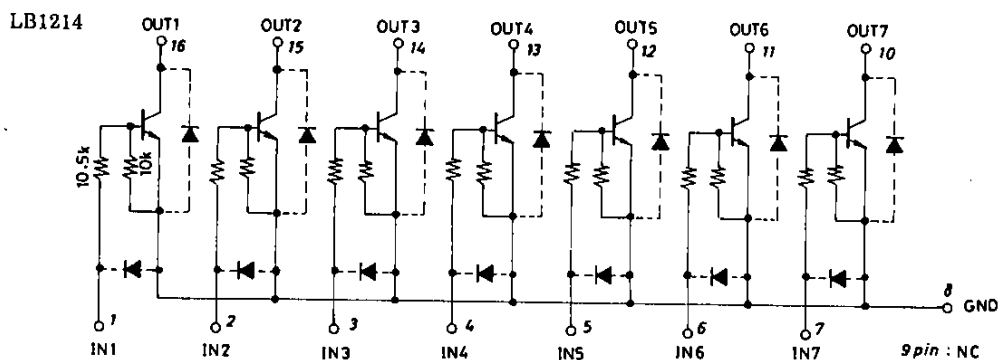
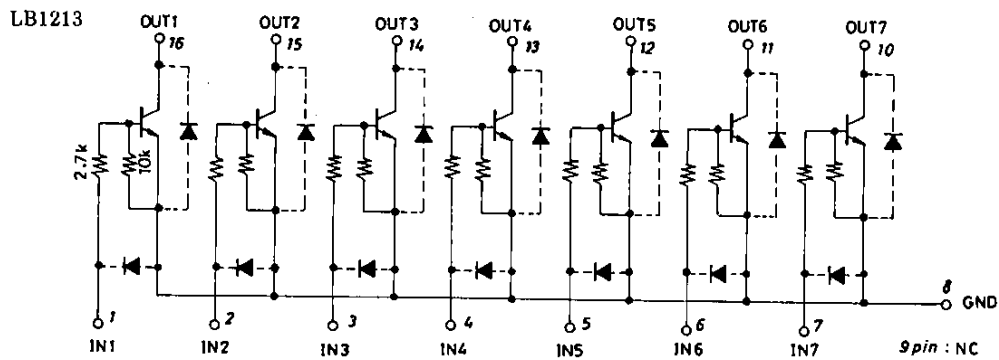
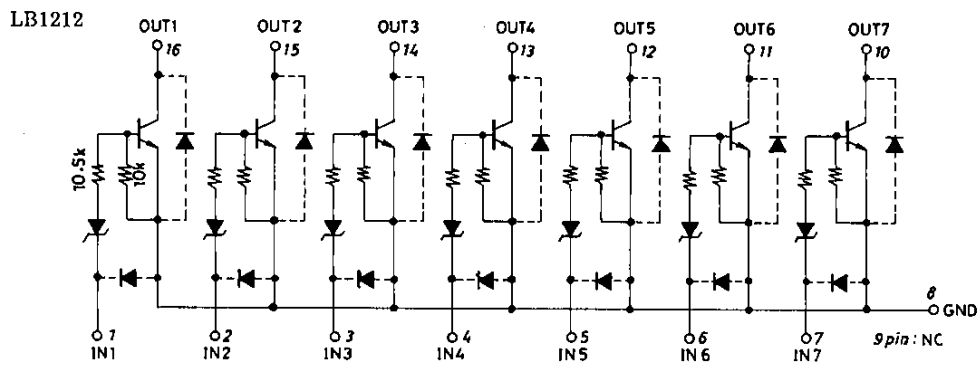
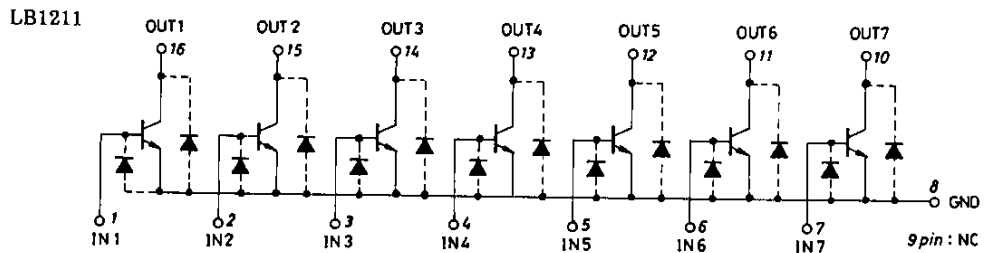
N010TS/4050YT/4078TA/7067KI/3295KI/7072KI,TS No.1042-1/4

# LB1211,1212,1213,1214,1215;1216,1217

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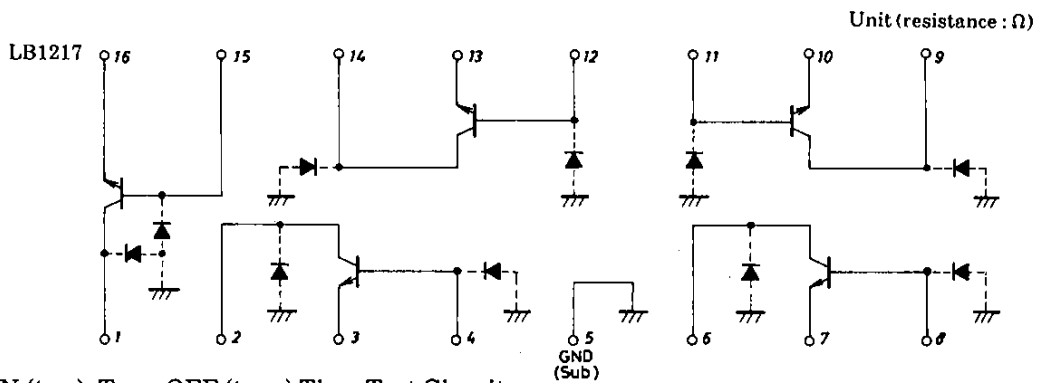
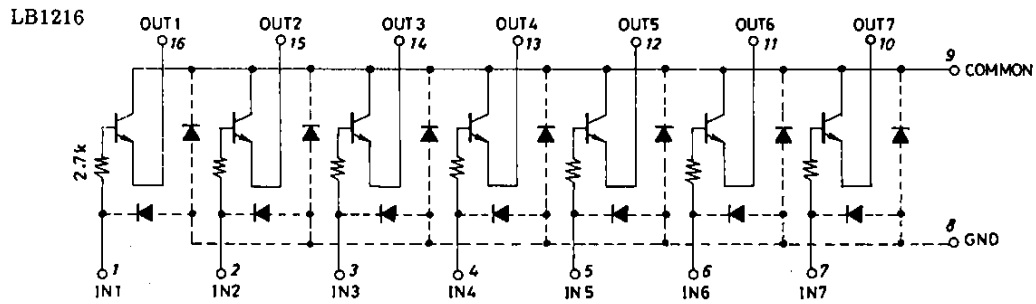
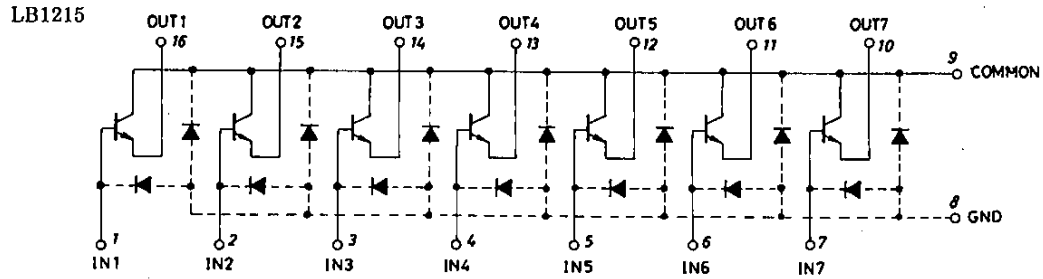
		$I_{IN} = 1\text{mA}, I_{OUT} = 10\text{mA}$	min	typ	max	unit
Input Voltage	$V_{IN(on)}$	LB1211/15/16/17 only	0.4			V
Turn-ON Time	$t_{ON}$	Refer to Test Circuit.		50		ns
Turn-OFF Time	$t_{OFF}$	Refer to Test Circuit.		200		ns

## Equivalent Circuit

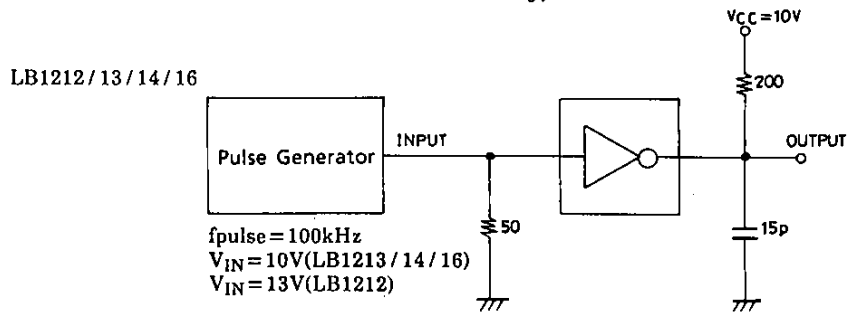
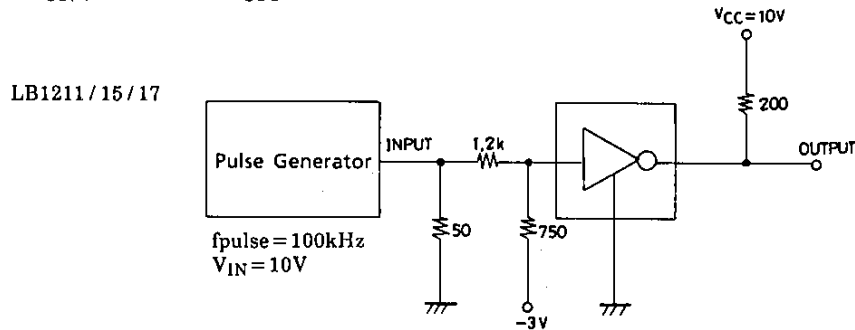


Unit (resistance :  $\Omega$ )

LB1211,1212,1213,1214,1215,1216,1217

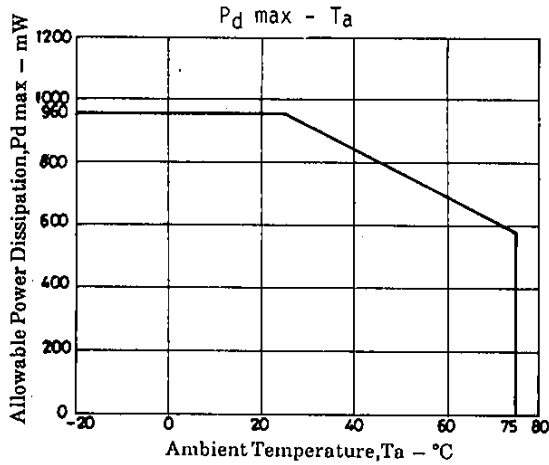
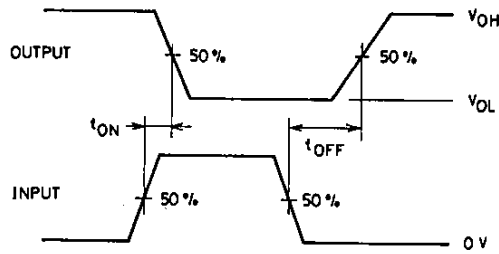


Turn-ON ( $t_{ON}$ ), Turn-OFF ( $t_{OFF}$ ) Time Test Circuits



Unit (resistance: Ω, capacitance: F)

Input/Output Waveforms



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