

SANYO	No.1376C	LB1411
		Level Meter

The LB1411 is intended for 10-LED display signal meter applications. It is especially suited for use in 3V-powered small-sized radios.

Features and Functions

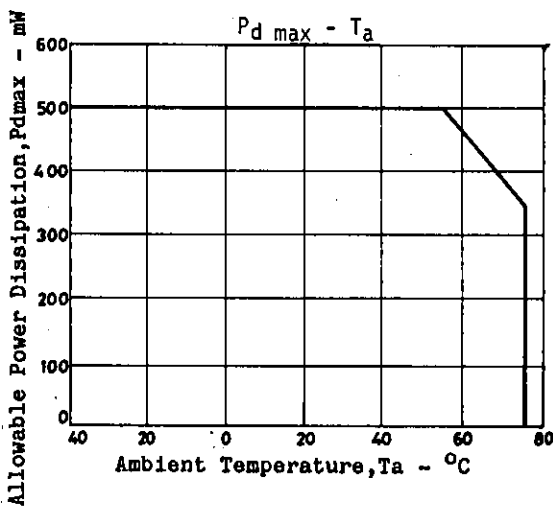
- . Operable from low voltage.
- . Minimum number of external parts required.
- . LED current is stabilized and can be also set freely by an external resistor.
- . Operable even at small signal input mode because of on-chip input amplifier.
- . High resolution capability because of 10-LED display.
- . Less electromagnetic interference in AM band.

Absolute Maximum Ratings at Ta=25°C		(Pin No.)		unit
Maximum Supply Voltage	V _{CC} max	15	-0.3 to 10	V
Input Voltage	V _{IN} max	2	-0.3 to V _{CC}	V
Allowable Power Dissipation	Pdmax	Ta=55°C	500	mW
Operating Temperature	Topr		-25 to +75	°C
Storage Temperature	Tstg		-40 to +125	°C

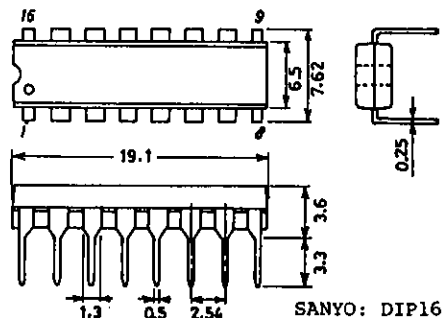
Allowable Operating Conditions at Ta=25°C		(Pin No.)	min	typ	max	unit
Supply Voltage	V _{CC}	15	2.1	3	9	V
I _D Determining Resistance		Connected across I _{LED} & GND	3.3	6.8	20	kohm

Electrical Characteristics at Ta=25°C, V _{CC} =3V		(Pin No.)	min	typ	max	unit	
Current Dissipation	I _{CC}	15		2.5	4	mA	
Input Current	I _{IN}	2	V _{IN} =0V	-1.0	-0.2	µA	
Reference Voltage	V _{ref}	16	1.14	1.24	1.34	V	
D Output Current	I _{D1to10}	4to13	D output ON, 6.8kohms across I _{LED} & GND	0.7	1	1.3	mA

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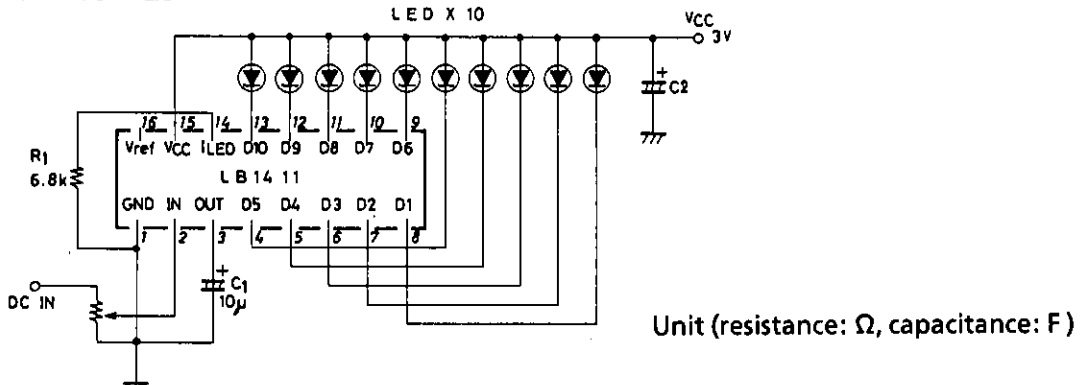
Package Dimensions 3064
(unit: mm)



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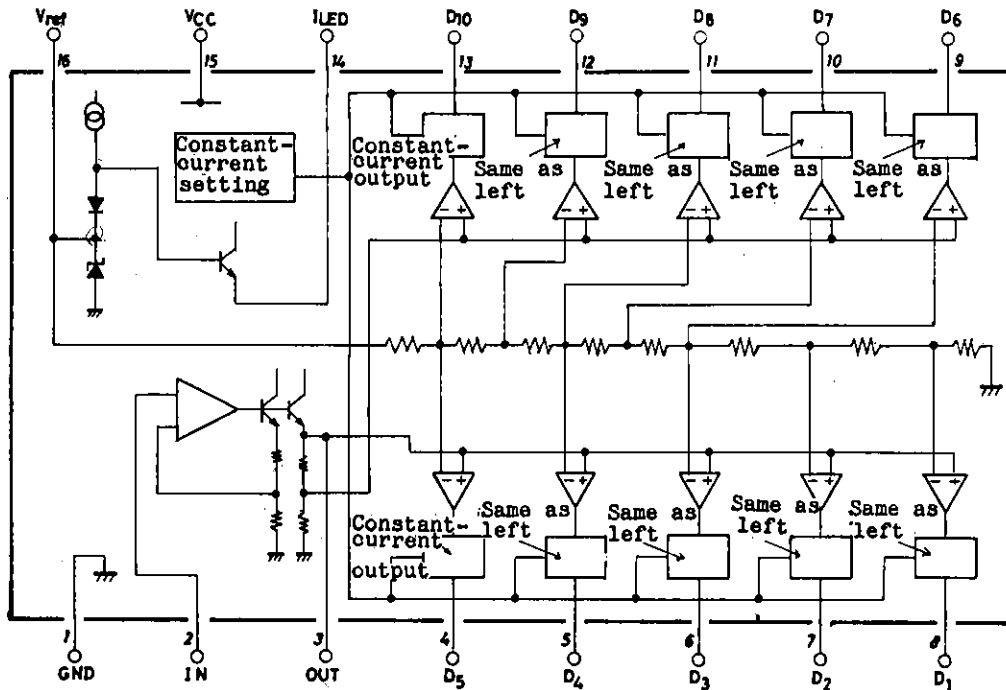
			(Pin No.)	min	typ	max	unit
Comparator	D ₁₀	V _{T10}	13	230	270	310	mV
Level	D ₁	V _{T1}	8	0.06V _{T10}	0.1V _{T10}	0.14V _{T10}	mV
	D ₂	V _{T2}	7	0.16V _{T10}	0.2V _{T10}	0.24V _{T10}	mV
	D ₃	V _{T3}	6	0.26V _{T10}	0.3V _{T10}	0.34V _{T10}	mV
	D ₄	V _{T4}	5	0.36V _{T10}	0.4V _{T10}	0.44V _{T10}	mV
	D ₅	V _{T5}	4	0.46V _{T10}	0.5V _{T10}	0.54V _{T10}	mV
	D ₆	V _{T6}	9	0.56V _{T10}	0.6V _{T10}	0.64V _{T10}	mV
	D ₇	V _{T7}	10	0.66V _{T10}	0.7V _{T10}	0.74V _{T10}	mV
	D ₈	V _{T8}	11	0.76V _{T10}	0.8V _{T10}	0.84V _{T10}	mV
	D ₉	V _{T9}	12	0.86V _{T10}	0.9V _{T10}	0.94V _{T10}	mV
	Output Saturation Voltage	D ₁ to D ₁₀	V _{sat}	4 to 13	6.8kohms across I _{LED} & GND		0.4
Output Leak Current		I _{OFF}	4 to 13			10	μA

Application Circuit



Constant current of D output is determined by R₁.
1mA typ. at 6.8kohms

Equivalent Circuit Block Diagram



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