



LB1233M

High-Voltage/Large-Current Darlington Transistor Array

Overview

The LB1233M is a Darlington transistor array using NPN transistors. It is suitable for applications such as hammer drive, lamp control, relay drive, etc. It also incorporates a spark killer diode for the L load.

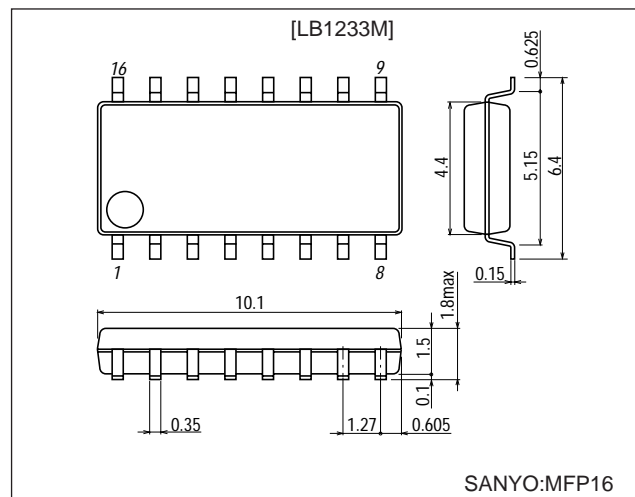
Features

- Designed for high voltage ($V_{CE0} \geq 50V$), large current drive capability ($I_C \text{ max}=500 \text{ mA}$)
- Integrated base current limiting resistor
- Direct drive capability with TTL, CMOS output

Package Dimensions

unit:mm

3035A-MFP16



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Specifications

Absolute Maximum Ratings at Ta = 25°C

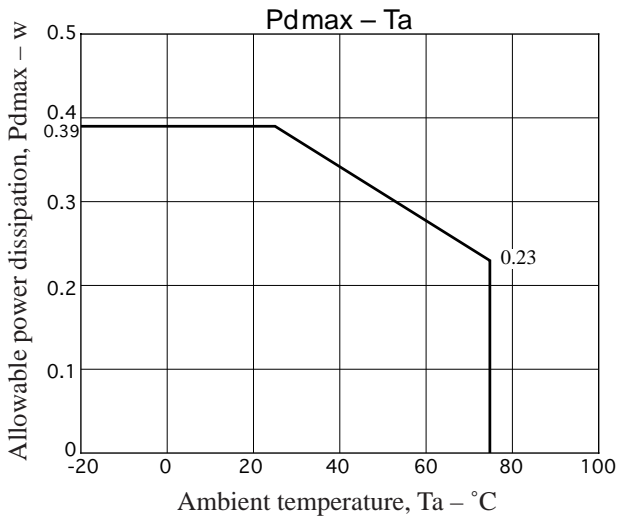
Parameter	Symbol	Conditions	Ratings	Unit
Applied output voltage	V _{OUT}		50	V
Output current	I _{OUT}	Per unit	500	mA
Applied input voltage	V _{IN}		30	V
Ground pin current	I _{GND}	All 7 channels ON, f = 10 Hz, duty = 5%	2.8	A
Allowable power dissipation	Pd max		0.39	W
Operating temperature	Topr		-20 to +75	°C
Storage temperature	Tstg		-40 to +150	°C

Allowable Operating Ranges at Ta = 25°C

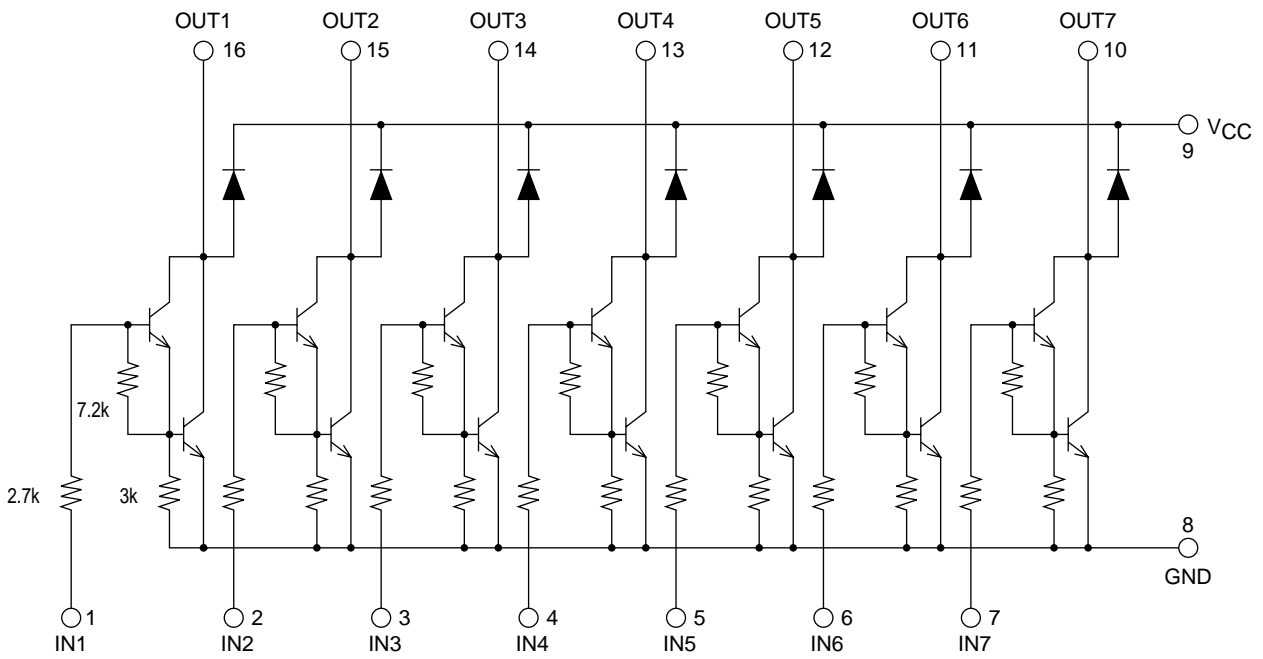
Parameter	Symbol	Conditions	Ratings	Unit
Applied output voltage	V _{OUT}		50	V
Input high level voltage	V _{IH}	I _{OUT} = 350 mA	3 to 30	V
Input low level voltage	V _{IL}	I _{OUT} ≤ 100 μA	-0.3 to +0.3	V

Electrical Characteristics at Ta = 25°C

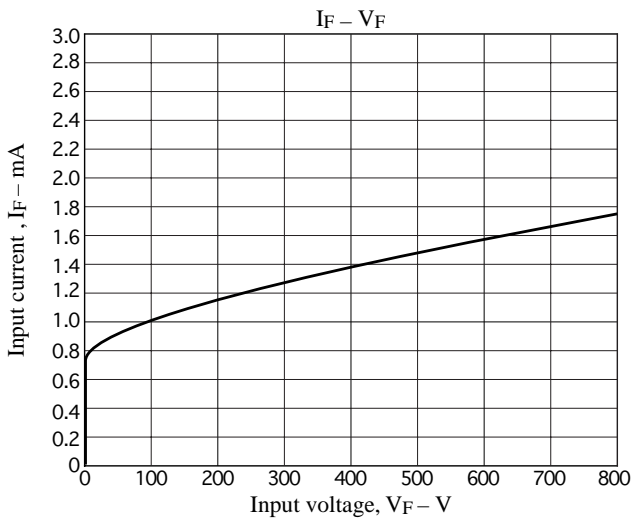
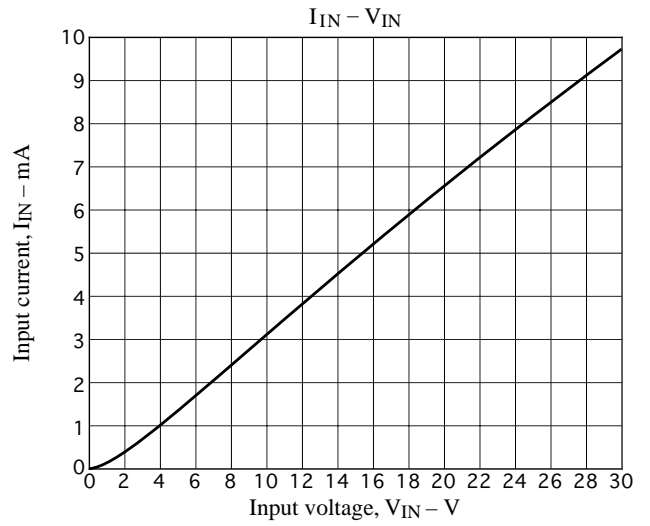
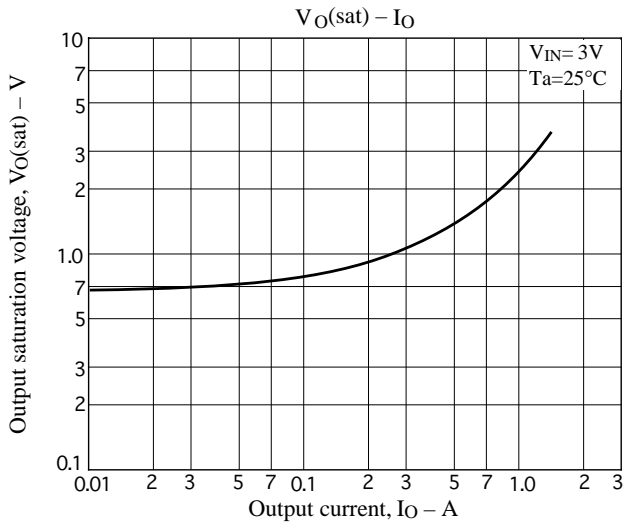
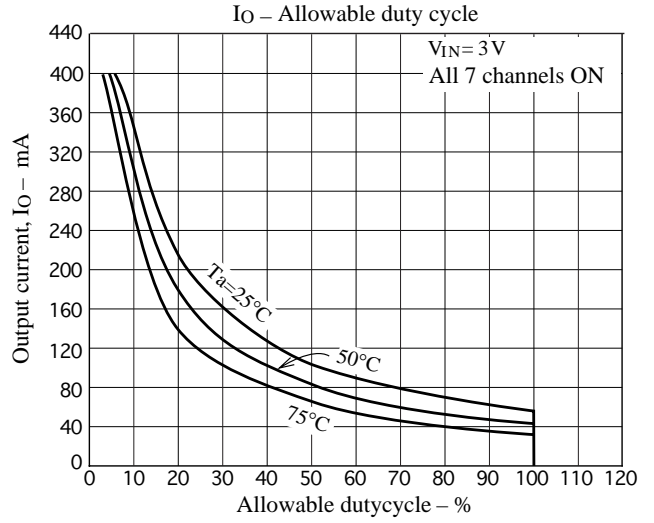
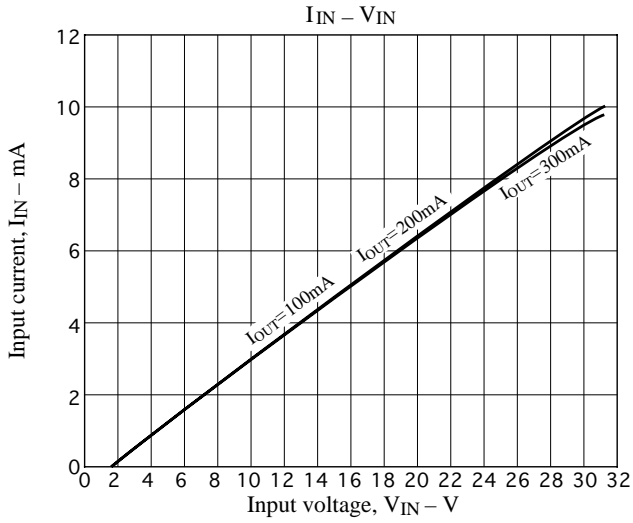
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output leakage current	I _{OFF}	V _{OUT} = 50V			100	μA
Output voltage	V _{OH1}	I _{IN} = 0.25 mA, I _{OUT} = 100 mA		0.9	1.1	V
	V _{OH2}	I _{IN} = 0.35 mA, I _{OUT} = 200 mA		1.1	1.3	V
	V _{OH3}	I _{IN} = 0.5 mA, I _{OUT} = 350 mA		1.3	1.6	V
	V _{OH4}	V _{IN} = 1 mA, I _{OUT} = 400 mA			2.4	V
Input current	I _{IN}	V _{IN} = 3.85V		0.93	1.35	mA
Spark killer diode leakage current	I _R (S)	V _R (S) = 50V			100	μA
Spark killer diode forward current	V _F (S)1	I _F (S) = 350 mA			2.0	V
	V _F (S)2	I _F (S) = 400 mA			2.4	V



Equivalent Circuit



A11015



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