



ACE321655DI

Load Switch with Controlled Slew Rate

Description

The ACE321655DI is a P-channel high-side load switch with controlled slew rate. Three slew rate options are available. The ACE321655DI01L and ACE321655DI04L have slew rates of 800 μ s. The ACE321655DI02L and ACE321655DI05L feature fast Slew Rate (less than 1 μ s). The slew rate of ACE321655DI03L and ACE321655DI06L is 100 μ s. The ACE321655DI03L, ACE321655DI04L, and ACE321655DI05L provide an output discharge circuit to quickly discharge the output when the switch is disabled.

The P-channel MOSFET has typical on resistance of 60m Ω . The very low $R_{DS(ON)}$ significantly reduces the power path dissipation. The input voltage range of ACE321655DI is from 1.6V to 5.5V. The control input is compatible with both TTL and CMOS logic. Ultra-low quiescent current makes this product suitable for any portable applications.

The ACE321655DI is available in 4-pin 1.2x1.6 DFN package and is rated over the -40°C to 85°C ambient temperature range.

Features

- 1.6V to 5.5V input voltage range
- Low $R_{DS(ON)}$ (60m Ω typical at 5V)
- Controlled turn-on slew rate
 - 800 μ s (ACE321655DI01L, 04L)
 - 100 μ s (ACE321655DI03L, 06L)
 - 1 μ s (ACE321655DI02L, 05L)
- Output discharge function (03L, 04L, 05L)
- Low quiescent current (1.0 μ A typical)
- Low shutdown current (<1 μ A)
- 4kV ESD Rating

Application

- Cellular phones
- MP3 players
- Personal media players
- Notebook computers
- Digital still cameras
- Hot-swap applications



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Absolute Maximum Ratings Exceeding the Absolute Maximum ratings may damage the device

Parameter		Rating
Input Voltage (V_{IN})		6V
Enable Voltage (V_{IN})		6V
Continuous Drain Current (I_D)	$T_A = 25^\circ\text{C}$	$\pm 2\text{A}$
	$T_A = 85^\circ\text{C}$	$\pm 1.4\text{A}$
Pulsed Drain Current (I_{DP})		$\pm 6\text{A}$
Continuous Diode Current (I_S)		-50mA
Storage Temperature (T_S)		-55°C to 150°C
ESD Rating ⁽¹⁾		4kV

Note:

1. Devices are inherently ESD sensitive, handling precautions are required. Human body model is a 100pF capacitor discharging through a 1.5k Ω resistor.

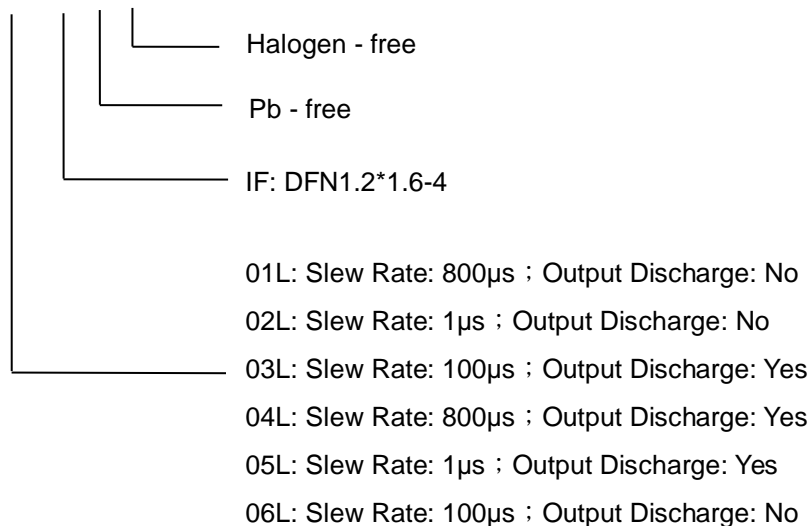
Recommended Operating

The device is not guaranteed to operate beyond the Maximum Operating Ratings.

Parameter		Rating
Input Voltage (V_{IN})		1.6V to 5.5V
Junction Temperature (T_J)		-40°C to 125°C
Thermal Resistance	(θ_{JA})	143.17 $^\circ\text{C}/\text{W}$
	(θ_{JC})	128.1 $^\circ\text{C}/\text{W}$

Ordering Information

ACE321655DI XX XX + H





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Notes

ACE does not assume any responsibility for use as critical components in life support devices or systems without the express written approval of the president and general counsel of ACE Technology Co., LTD. As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury to the user.
2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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