



# ACE12300B

## N-Channel Enhancement Mode Field Effect Transistor

### Description

Load switch for Portable Applications.  
DC/DC Converters.

### Features

- $V_{DS}=20V$
- $I_D=5.5A$
- $R_{DS(ON)} @ V_{GS}=10V$ , TYP  $25m\Omega$
- $R_{DS(ON)} @ V_{GS}=4.5V$ , TYP  $27m\Omega$
- $R_{DS(ON)} @ V_{GS}=2.5V$ , TYP  $34m\Omega$

### Absolute Maximum Ratings

Parameter		Symbol	Max	Unit
Drain-Source Voltage		$V_{DSS}$	20	V
Gate-Source Voltage		$V_{GSS}$	$\pm 12$	V
Drain Current (Continuous)*AC	$T_A=25^\circ C$	$I_D$	5.5	A
	$T_A=70^\circ C$		4	
Drain Current (Pulsed)*B		$I_{DM}$	13.5	A
Power Dissipation	$T_A=25^\circ C$	$P_D$	1.25	W
Operating temperature / storage temperature		$T_J/T_{STG}$	-55~150	$^\circ C$

Note :

- The value of  $R_{\theta JA}$  is measured with the device mounted on 1in<sup>2</sup> FR-4 board with 2oz. Copper, in a still air environment with  $T_A=25^\circ C$ . The value in any given application depends on the user's specific board design.
- Repetitive rating, pulse width limited by junction temperature.
- The current rating is based on the  $\leq 10s$  junction to ambient thermal resistance rating.

### Thermal Resistance Ratings

Parameter		Symbol	Typical	Max	Unit
Maximum Junction-to-Ambient a, e	$t \leq 5s$	$R_{thJA}$	80	100	$^\circ C/W$



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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 Electronics 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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