



ACE16428B

N-Channel Enhancement Mode Field Effect Transistor

Description

The ACE16428B uses advanced trench technology to provide excellent $R_{DS(ON)}$, low gate charge. This device is suitable for use as a high side switch in SMPS and general purpose applications.

Features

- $V_{DS} (V) = 30V$
- $I_D = 40A (V_{GS} = 10V)$
- $R_{DS(ON)} < 7m\Omega (V_{GS} = 10V)$
- $R_{DS(ON)} < 10.5m\Omega (V_{GS} = 4.5V)$
- 100% Delta Vsd Tested
- 100% R_g Tested

Absolute Maximum Ratings

Parameter	Symbol	Max	Unit
Drain-Source Voltage	V_{DSS}	30	V
Gate-Source Voltage	V_{GSS}	± 20	V
Drain Current (Continuous)	I_D	$T_A=25^\circ C$	40
		$T_A=100^\circ C$	17
Drain Current (Pulse) ^C	I_{DM}	50	A
Drain Current (Continuous)	I_{DSM}	$T_A=25^\circ C$	11
		$T_A=70^\circ C$	8
Power Dissipation ^B	P_D	30	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^\circ C$
Maximum Junction-to-Ambient ^A	$R_{\theta JA}$	$t \leq 10s$	21
Maximum Junction-to-Ambient ^{AD}		Steady-State	50
Maximum Junction-to-Case	$R_{\theta JC}$	3.5	$^\circ C/W$

A. The value of $R_{\theta JA}$ is measured with the device mounted on 1in² FR-4 board with 2oz. Copper, in a still air environment with $T_A=25^\circ C$. The Power dissipation P_{DSM} is based on $R_{\theta JA}$ and the maximum allowed junction temperature of $150^\circ C$. The value in any given application depends on the user's specific board design.

B. The power dissipation P_D is based on $T_{J(MAX)}=150^\circ C$, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heatsinking is used.

C. Repetitive rating, pulse width limited by junction temperature $T_{J(MAX)}=150^\circ C$. Ratings are based on low frequency and duty cycles to keep initial $T_J = 25^\circ C$.

D. The $R_{\theta JA}$ is the sum of the thermal impedance from junction to case $R_{\theta JC}$ and case to ambient.



ACE16428B

N-Channel Enhancement Mode Field Effect Transistor

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 sued 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.