



ACE110N50LA

N-channel Enhanced MOSFETs

Description

ACE110N50LA, the silicon N-channel Enhanced MOSFETs, is obtained by advanced MOSFET technology which reduce the conduction loss, improve switching performance and enhance the avalanche energy. The transistor is suitable device for SMPS, high speed switching and general-purpose applications. MOSFETs is the device which is sensitive to the static electricity, it is necessary to protect the device from being damaged by the static electricity when using it. When installing the heat sink, please pay attention to the torsional moment and the smoothness of the heat sink.

Features

- $V_{DS} @ T_J = 500V(\text{Max}), I_D = 8A, R_{DS(ON)} = 1.0\Omega (\text{Typ})$
- Fast Switching
- 100% avalanche tested
- Low C_{rss}
- Improved dv/dt capability

Applications

- Electronic ballast
- High frequency switching mode power supply

Absolute Maximum Ratings ($T_C=25^\circ\text{C}$ Unless otherwise noted)

Parameter	Symbol	Rating	Unit
Drain-to-Source Voltage	V_{DSS}	500	V
Continuous Drain Current	I_D	8	A
Continuous Drain Current $T_C = 100^\circ\text{C}$		5	A
Pulsed Drain Current ^(Note1)	I_{DM}	30	A
Gate-to-Source Voltage	V_{GS}	± 30	V
Single Pulse Avalanche Energy ^(Note2)	E_{AS}	520	mJ
Peak Diode Recovery dv/dt ^(Note3)	dv/dt	5.0	V/ns
Power Dissipation TO-220/ TO-251/ TO-252	PD	160	W
Derating Factor above 25°C		1.28	W/ $^\circ\text{C}$
Power Dissipation TO-220F		48	W
Derating Factor above 25°C		0.38	W/ $^\circ\text{C}$
Operating Junction and Storage Temperature Range	T_J, T_{stg}	150, -55 to 150	$^\circ\text{C}$
Maximum Temperature for Soldering	T_L	300	$^\circ\text{C}$

1. Pulse width limited by maximum junction temperature
2. $L=20\text{mH}, V_{DS}=50\text{V}, R_G=25\Omega, \text{Start } T_J=25^\circ\text{C}$
3. $ISD = 8A, di/dt \leq 100A/\mu\text{s}, V_{DD} \leq BV_{DS}, \text{Start } T_J=25^\circ\text{C}$



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Exceeding the maximum ratings of the device in performance may cause damage to the device, even the permanent failure, which may affect the dependability of the machine. Please do not exceed the absolute maximum ratings of the device when circuit designing.

Thermal Characteristic

TO-220

Parameter	Symbol	Rating	Unit
Junction-to-Case	$R_{\theta JC}$	0.78	°C/W
Junction-to-Ambient	$R_{\theta JA}$	62.5	

TO-220F

Parameter	Symbol	Rating	Unit
Junction-to-Case	$R_{\theta JC}$	2.6	°C/W
Junction-to-Ambient	$R_{\theta JA}$	62.5	

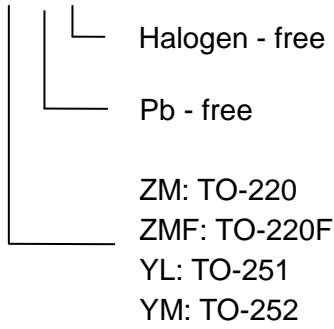


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Ordering Information

ACE110N50LA 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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