



# ACE7366R

## 3.6 A/55 V, DC-DC BUCK Converter

### Description

ACE7366R offers a wide input voltage, dedicated step-down converter that operates in either CV (Constant Output Voltage) mode or CC (Constant Output Current) mode. The maximum input voltage is up to 55V and the operation input voltage is from 8.5V to 55V. With two high voltage power MOSFETs in the same package, 50mΩ at High-Side and 30mΩ at Low-Side, ACE7366R could deliver up to 3.6A of continuous output current. External compensation is not needed. The line compensation and the constant current can be set by the external resistors. In conclusion, ACE7366R is a full function and high performance, high reliability buck DC-DC converter.

### Features

- Max Output Current: 3.6A
- Adjustable Output Voltage, VFB=1V
- Adjustable Output Current, VCS=50mV
- Efficiency: Up to 96%
- Constant Voltage Accurate:  $\pm 2\%$
- Constant Current Accurate:  $\pm 8\%$
- Build in High-Side and Low-Side MOSFET
- No External Compensation Needed
- Short Circuit Protection
- Over Voltage Protection
- Gradual Thermal Protection
- Under Voltage Lock-Out
- Available in SOP-8 package

### Applications

- Industry Application
- Black Box
- Car DVD
- Car Charger



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### Absolute Maximum Ratings

| Parameter                                    | Value          |
|--|----------------|
| VIN to GND                                   | -0.3 to 55 V   |
| SW to GND                                    | -0.3 to 55 V   |
| FB to GND                                    | -0.3 to 5.5 V  |
| CS, OUT to GND                               | -0.3 to 24 V   |
| Max Operating Junction Temperature (Tj)      | 150°C          |
| Ambient Temperature (Ta)                     | -40°C to 85°C  |
| Continuous Power Dissipation                 | 0.92 W         |
| Package Thermal Resistance ( $\theta_{JA}$ ) | 136°C / W      |
| Package Thermal Resistance ( $\theta_{JC}$ ) | 45°C / W       |
| Storage Temperature (Ts)                     | -40°C to 150°C |
| Lead Temperature & Time                      | 260°C, 10s     |
| ESD (HBM)                                    | 2000V          |

Note:

- (1). Stresses at or above those listed under Absolute Maximum Ratings may cause permanent damage to the product.
- (2). The maximum allowable power dissipation is a function of the maximum junction temperature  $T_J$  (MAX), the junction-to- ambient thermal resistance  $\theta_{JA}$ , and the ambient temperature  $T_A$ . The maximum allowable continuous power dissipation at any ambient temperature is calculated by  $PD(MAX)=(T_J(MAX)-T_A)/\theta_{JA}$ .
- (3). The  $\theta_{JA}$  values given in this table are for comparison with other packages only and cannot be used for design purposes. They do not represent the performance achieved in real-world applications.

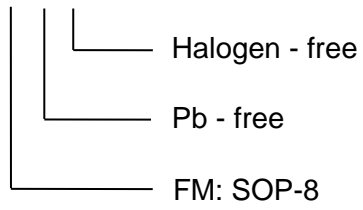


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## Ordering Information

ACE7366R 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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