Single inductor multi-output (SIMO) high power step down LED driver IC

Features

- Input voltage range: 9V ~ 55V.
- Individual PWM shunt MOSFET dimming channels for RGBW.
- Support wide high PWM dimming frequency: 1 kHz to 25 kHz
- Adjustable Current Calibrator (ACC) for channel skew.
- Hysteretic PFM operation mechanism eliminates external compensation design.
- Built-in Bootstrap Schottky Diode from VSW to VBT.
- Programmable constant output current by internal 100mV reference voltage.
- PWM dimming technique supported only.
- PWM dimming resolution up to 16 bit at proper applications.
- Complete protection function: UVLO, Start-up, OTP.
- Package: SOP-24, TSSOP-24, QFN-24.

Surface Mount Device

GF-SOP24L

GTS-TSSOP24L

GFN-QFN4×4-24L

Product Description

MBI6673 is constant current step-down LED driver IC which drives N-MOS, and besides, it could control individually red, green, blue and white LED dimming with SIMO configuration. Because MBI6673 is controller, by choosing the type of N-MOSFET, the fixtures could easily drive 3A or even more than 3A current loading with MBI6673. Through Macroblock's outstanding technique, the bootstrap schottky diode from VCCH to VBT to help users to save BOM cost. In addition, with low current sensing reference voltage, 100mV, it could help customers to set up wide output current range based on application scope.

Through hysteretic pulse frequency modulation, users can design MBI6673 application circuit without external components and MBI6673 has fast transient response. When it comes to current sensing accuracy, MBI6673 could achieve high current accuracy with peak current detection and moreover, with ACC function MBI6673 could avoid current inconsistency due to tolerance of external components, especially inductors. With respect to dimming resolution, MBI6673 could provide great dimming linearity and 16 bit resolution by shunt dimming technique, realized by external N-MOSFET connected to LED in parallel. In the end, according to input voltage range from 9V to 55V, MBI6673 is not only suitable for stage lighting application but also ideal for automotive alarm lighting.