NEW LOW INPUT CURRENT PHOTOTRANSISTOR OPTOCOUPLER – CT816L

CT Micro's new low input current phototransistor optocoupler CT816L offers the best-in-class electro-optical features for improving system performance & reliability.

When we look around the gadgets that we are using on a daily basis, we can't ignore the fact that we are actually dwelling in a world that is hungry with growing needs for more power consumption. The key challenge for a designer now is to cope with this fact and try to fight it with newer innovative power efficient solution.

CT Micro is doing our part in conserving energy as well as to ease some of the pressure from a designer by introducing a new family of low input driving current phototransistor optocouplers of 1mA and below. These new CT816L series comprise of 4 tightly binned current-transfer-ratio (CTR) devices which guarantee its performance over low input driving current of 1mA and 0.5mA. As a comparison, most similar class optocouplers offer input driving current of 5mA or above. Nowadays, this 5mA test specification definitely cannot fit well in most of the newer design seen in the field. With this obsolete specification, a designer will now face challenge, by having to ensure that they design will work around this shortfall.

Here are some of the important advantages of CT816L device to be considered:

- A guaranteed multiple CTR bin selections at test conditions of IF=1mA/Vce=0.5V & IF=0.5mA/Vce=1.5V, for increased design flexibility & overall system performance as well as efficiency
- Patented Double-Molded Coplanar(DMC) design which offers top-of–the-class high isolation voltage performance and overall package robustness
- Higher operating temperature (110°C vs. 100°C) to improve overall high temperature reliability
- 100% Pb-free & RoHS compliant with optional on Halogen Free selection to meet all green environmental initiative

FEATURES

- High CTR flexibility at low input current
- High isolation 5000 V_{RMS}
- DC-input with transistor output
- External creepage: ≥ 7.5mm (S/SL Type)
- External creepage: ≥ 8.0mm (SLM Type)
- Operating temperature: -55 °C ...+110 °C
- Regulatory approvals: UL - UL1577 (E364000), VDE – EN60747-5-5 (VDE0884-5), CQC – GB4943.1, GB8898, IEC60065, IEC60950

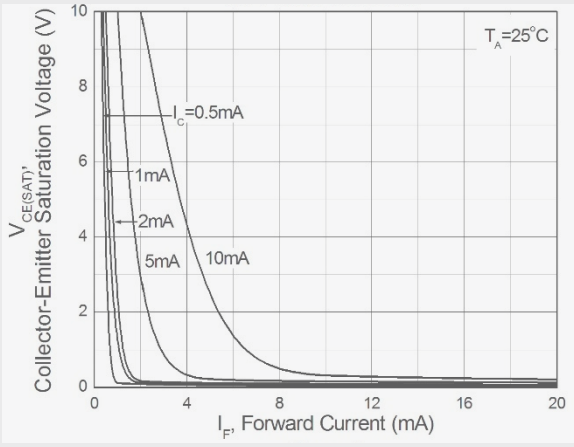
APPLICATIONS

- Switch mode power supplies
- Computer peripheral interface
- Microprocessor system interface

ELECTRO-OPTICAL CHARACTERISTICS

- Collector-Emitter Breakdown Voltage: min. 80 V
- Current Transfer Ratio (CTR),
  Test conditions: I_F=1 mA, V_{CE}=0.5 V
  - CT816L2: min. 63 % / max. 125 %
  - CT816L3: min. 100 % / max. 200 %
  - CT816L4: min. 160 % / max. 320 %
  - CT816L5: min. 250 % / max. 500 %
- Collector-Emitter Saturation Voltage ($V_{CE(SAT)}$)
  - CT816L2: typ. 0.2 V / max. 0.4 V (@ I_F=1mA, I_C=0.32 mA)
  - CT816L3: typ. 0.2 V / max. 0.4 V (@ I_F=1mA, I_C=0.50 mA)
  - CT816L4: typ. 0.2 V / max. 0.4 V (@ I_F=1mA, I_C=0.80 mA)
  - CT816L5: typ. 0.2 V / max. 0.4 V (@ I_F=1mA, I_C=1.25 mA)

CHARACTERISTICS – $V_{CE(SAT)}$ vs. I_F



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