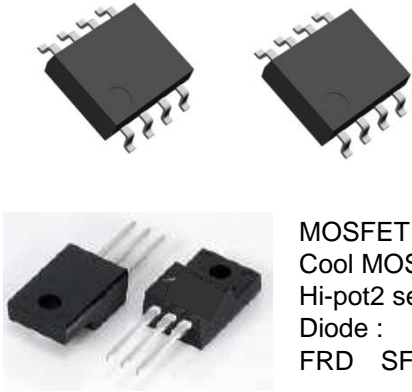


# Smart-Resoic®

## MH2501SC, MH2511SC

### Multi Interleave Technology ! "Over 2 Stage"



MOSFET :  
Cool MOS C3,CPseries  
Hi-pot2 series  
Diode :  
FRD SF\*K60Mseries

MH2501SC : master PFC\_IC SOP8  
MH2511SC : slave PFC\_IC SOP8

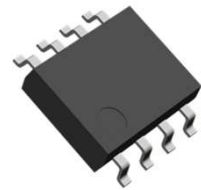
- High efficiency and low EMI integrated Critical Current Mode PFC Controller
- Multiple interleaving operation possible by adding multiple slave controller
- No input voltage sensing permits reduction in power consumption
- $I_{src}/I_{sink} = 0.5A(\text{sourcing})/1.2A(\text{sinking})$  Gate driver
- OVP , OCP , loop open/short protections , Slave stop protection ,Blocking diode short protection

## MV1000series

MV1001SC: Can operated via AC direct input  
MV1002SC: Uses an external starter circuit

- Constant current control
- Critical Conduction Mode  $\Rightarrow$  High efficiency and low EMI
- Allows for PWM dimming input and linear dimming input
- Can operated via AC direct input (MV1001SC)
- high side and low side drive -- both are possible
- Switching frequency clamp by OFF width control
- Equipped with various protection, such as LED short protection

### Deep Dimming Control !



MOS  
Hi-pot2 series

### Simple Design !

## MD5021T



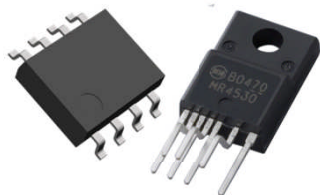
- Integrated P-Channel MOSFET reduces component count total cost
- Input Voltage range: 4.5V ~14V
- Adjustable output voltage range: 0.8 ~12V
- Adjustable operating frequency range: 100k ~500kHz
- High output current 2A

2013/4/5



**Soft Switching !**  
**Hi Stand-by Performance !**

**MS1000series, MR4000series**



MS1000series : Quasi-Resonant IC  
MR4000series : MOSFET (SIGBT) + Quasi-Resonant IC



SW : Hi-pot MOS 2 series  
VX4 series  
SIGBT series

Output Di : SBD SG(SC,JC,TC)  
FRD SF

- High Efficiency quasi-resonant converter
- Low EMI with soft switching
- External start up resistor not required (MS1000 series)
- Super stand-by mode for high efficiency (MS1000 series)
- Improvement of "light load" due to automatic QR operation function (MS1000 series)
  - 1 Bottom – skip QR operation (MS1003SH)
  - 2 Bottom – skip QR operation (MS1004SH)
- Automatic OCL level compensation for input BUS voltage (MS1000 series)
- MS1000 in SOP8 package & MR4000 in FTO220 package

**MCZ5205SE, MCZ5203SE, MCZ5301SC**

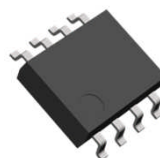
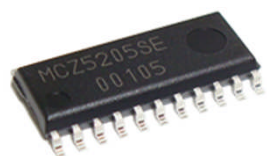
**Soft Switching !**  
**Hi Efficiency !**

**MCZ5205SE** : Direct drive LLC controller and PFC controller in a SOP22 PKG

**MCZ5203SE** : Direct drive LLC controller in a SOP22 PKG

**MCZ5301SC** : External drive LLC controller in a SOP8 PKG

- Built-in 600V high voltage gate driver for high reliability, (excluding MCZ5301SC),
- Protection functions against abnormal over-current protection (AOCP), brownout detection and Best-in-class capacitive mode protection
- Integrated active stand-by function to reduce loss in light load range (MCZ5205SE)

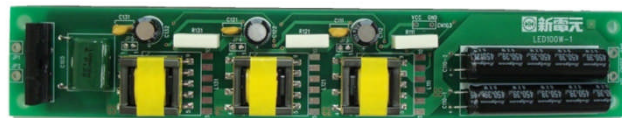
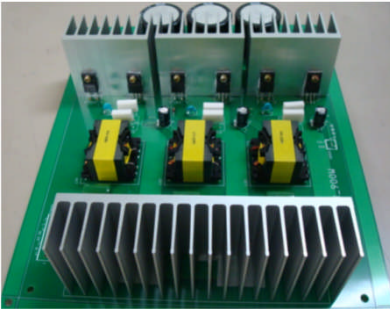


SW :Cool MOS C3,CP series  
Hi-pot MOS 2 series\*  
VX4 series  
Output Di :SBD SG(SC,JC,TC)  
FRD SF

2013/4/5

# Smart-Resoic<sup>®</sup>

## PFC course with MH series



- Sample 1: AC85V~132V, 395V 80W (MH2501SC\*1, MH2511SC\*2)
- Sample 2: AC180V~264V, 395V 4kW (MH2501SC\*1, MH2511SC\*2)
- Sample 3: AC85V~264V, 395V 900W (MH2501SC\*1, MH2511SC\*2)

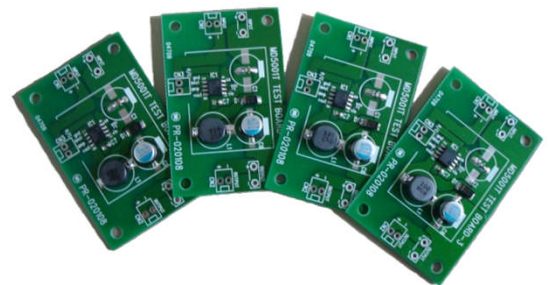
## Stepping down chopper course for LED lighting with MV series



- Sample 1: AC180V~264V, 100V 0.3A (MV1001SC)

## Stepping down chopper course with MD series

- Sample 1: DC12V, 9V / 0.5A (MD5021T)
- Sample 2: DC12V, 5V / 1A (MD5021T)
- Sample 3: DC12V, 3.3V / 1A (MD5021T)
- Sample 4: DC12V, 1.5V / 2A (MD5021T)

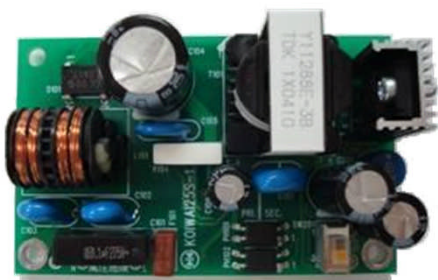


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## QRC course with MR

- Sample 1 : AC90V~276V, 24V1.9A (MR4010)
- Sample 2 : AC90V~276V, 24V1.9A (MR9010)

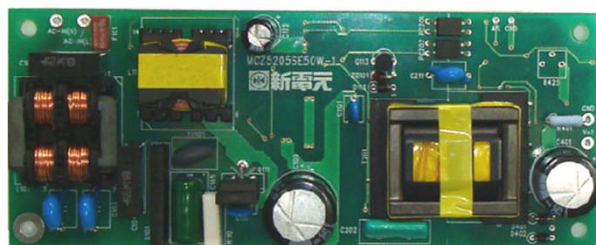
## QRC – “Super Stand-by Series“ course with MS series



- Sample 1 : AC80V~132V, 12V2A (MS1003SH)
- Sample 2 : AC90V~276V, 24V3A (MS1003SH)
- Sample 3 : AC90V~276V, 12V2A (MS1003SH)

## LLC course with MCZ series

- Sample 1 : AC90V~264V, 140V0.35A (MCZ5205SE) Constant current control
- Sample 2 : AC90V~264V, 24V3A/12V2A (MCZ5205SE)



Shindengen:

MV1001SC-5072 MV1002SC-5072