

## For power semiconductor



# High Current Electro Migration Evaluation System

Model: AEM-2000

Reference → Power devices <http://www.espec.co.jp/english/products/market/auto/power.html>  
<http://www.espec.co.jp/english/products/market/new/power.html>

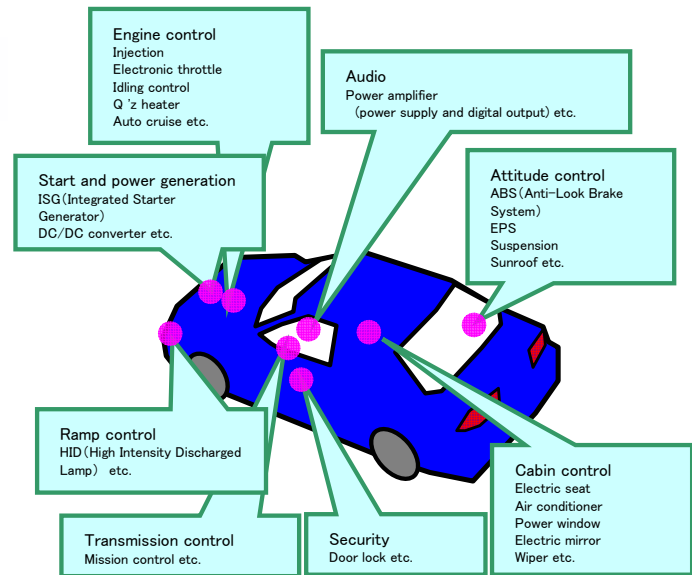


## This High Current Electro Migration

**Evaluation System** achieved the stress current impression of the high current such as 1A-5A. This system can evaluate void and herock of wiring by the electro migration phenomenon (hereafter, EM). Offering as the world standard model with all-in-one design high temperature oven and easy operation. Along with the development in automotive electronics, the amount of current in those circuit and current density getting larger and larger. The evaluation system with higher current such as 1A is in need under those circumstances.

## Target device

**Power MOSFET** is widely used as an electric power control device of the electronics equipment. Because their response speed is faster than other devices, and the conversion efficiency in the low voltage area is higher. It is used by the switching power supply and the inverter, etc. in the area of below 200V with about 5A. Recently, the number of electronic devices installed in cars increases rapidly by the progress of automotive electronics on-board. Those electronic devices for the automotive are required high voltage and current. It will increase more along with implementation of hybrid vehicle into the market.

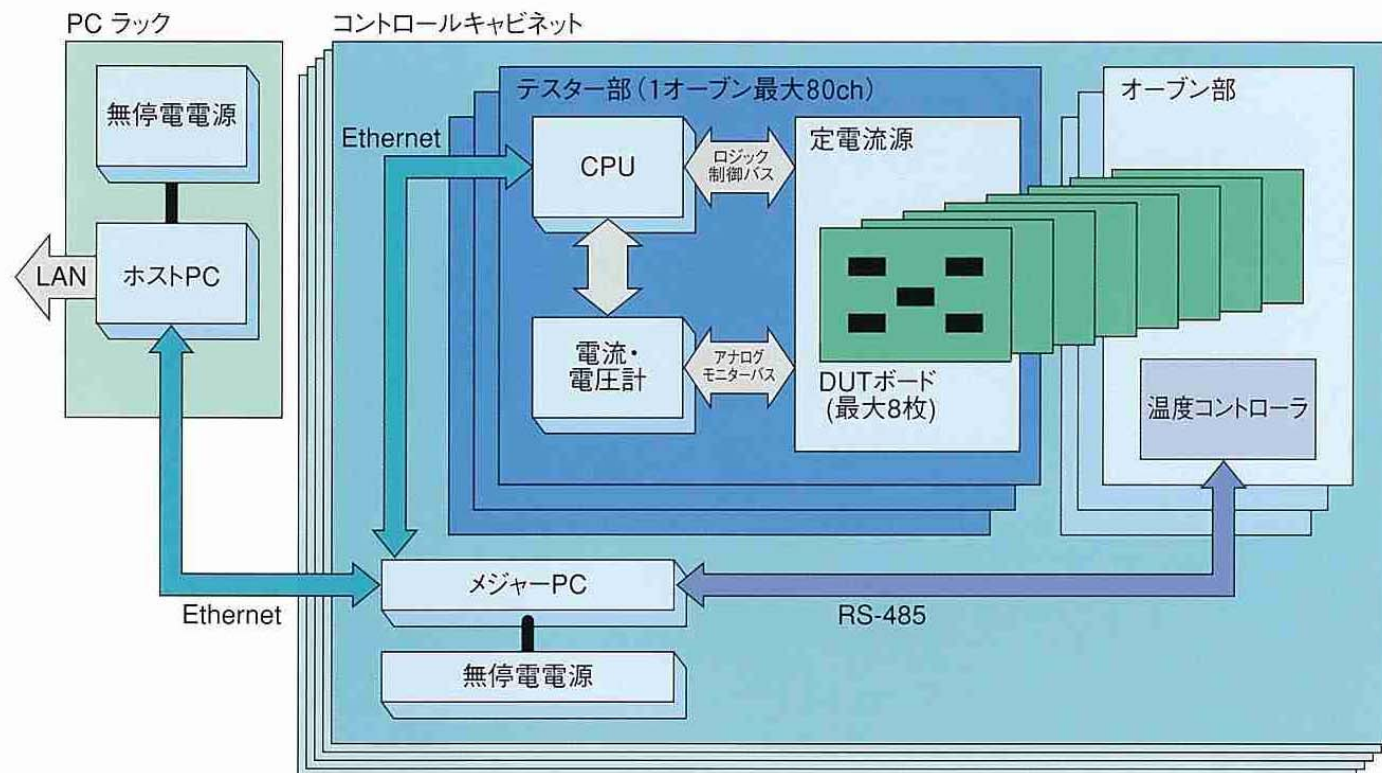


## Feature

- High current stress impression equipment  
(By impressed high current stress under the high temperature environment, it evaluates the electro migration by measurement resistance change.)
- Space-saving proposal by all-in-one chamber design
- Three stacked temperature chambers with uniform temperature distribution and steady temperature control.
- EM module can be selected according to required current.
- Equipped with WSB function. (resistance change measurement method by using Wheat Stone Bridge.)
- 1DUT multipoint measurement function is installed. (The voltages of two can be measured for one current source. )
- High insulation and highly reliable TEG board. (250°C)
- The world standard test software contains user know-how.

Example of power MOSFET application for car electrical equipment

# System block



## Specification

Evaluation item	<ul style="list-style-type: none"> <li>• Electro migration (fixed current stress) test</li> <li>• Stress migration test</li> <li>• WSB function</li> <li>• TCR test</li> </ul>	
	Output Range	1mA~1A/2A/5A
Stress current source	Accuracy	±1% or less
	Subservient Voltage	0~+18V
	Temperature range	+65°C~+400°C
Oven specification	Temperature Constancy	±0.5°C (+65°C~+250°C)
	Temperature Uniformity	±2.5°C (+65°C~+250°C)
	Outfit goods	N2 gas inlet port

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<http://www.espec.co.jp/english/products/market/new/power.html>



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## Digital Consumer Electronics



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## Information Technology



- Optical module/Optical devices <http://www.espec.co.jp/english/products/market/it/light.html>
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- Secondary battery <http://www.espec.co.jp/english/products/market/it/secondbattery.html>
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- Personal computers <http://www.espec.co.jp/english/products/market/it/pc.html>
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## Automobile



- In-vehicle sensors <http://www.espec.co.jp/english/products/market/auto/sensor.html>
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- Secondary battery <http://www.espec.co.jp/english/products/market/auto/secondbattery.html>
- CCD <http://www.espec.co.jp/english/products/market/auto/ccd.html>
- Power devices <http://www.espec.co.jp/english/products/market/auto/power.html>
- Car navigation system <http://www.espec.co.jp/english/products/market/auto/carnavi.html>
- ECU <http://www.espec.co.jp/english/products/market/auto/ecu.html>
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## New Energy



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- Secondary battery <http://www.espec.co.jp/english/products/market/new/secondbattery.html>