

## EHV (or Power Electronics)

# Power MOSFET : SuperFAP-E<sup>3</sup> series

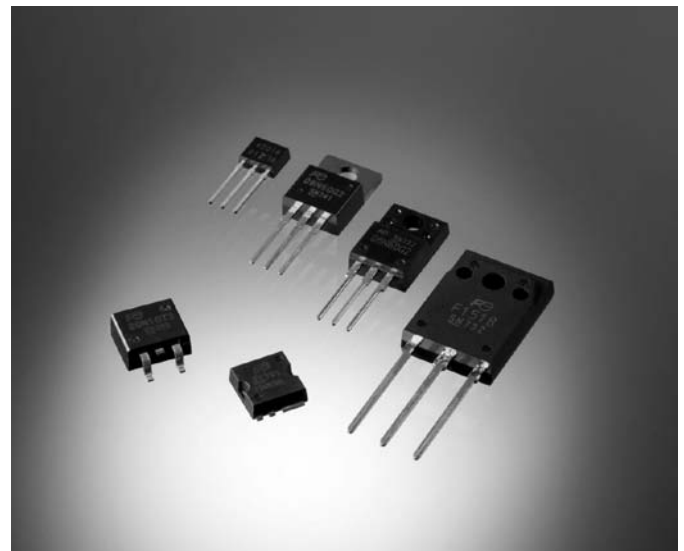
This new power MOSFET realized the low switching loss and low switching noise.

### ■ Features

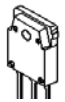
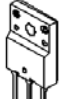

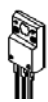



- About 20% lower power loss than conventional type, under the same noise-level condition.
- Lower RDS (on)
  - About 16% lower RonA than conventional type.
- Improvement of dVDS/dt controllability by gate resistance

### ■ Applications

- General purpose SMPS


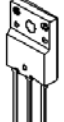







### ■ Specifications and Line-up

RDS (on) max.	ID	VGS (th)	TO-3P(Q)	TO-3PF	TO-220	TO-220F (SLS)	I2-Pack	D2-Pack (SMD)	TFP (SMD)	
										
500V	0.19Ω	28A	4.2±0.5V	FMH28N50ES	FMR28N50ES					
	0.245Ω	23A	4.2±0.5V	FMH23N50ES	FMR23N50ES			FMV23N50ES		
	0.27Ω	21A	4.2±0.5V	FMH21N50ES	FMR21N50ES			FMV21N50ES		
	0.31Ω	20A	4.2±0.5V	FMH20N50ES	FMR20N50ES *2	FMP20N50ES	FMV20N50ES	FMI20N50ES	FMC20N50ES	FML20N50ES *1
	0.38Ω	16A	4.2±0.5V	FMH16N50ES	FMR16N50ES *2	FMP16N50ES	FMV16N50ES	FMI16N50ES	FMC16N50ES	FML16N50ES *2
	0.52Ω	12A	3.7±0.5V			FMP12N50ES	FMV12N50ES	FMI12N50ES	FMC12N50ES	FML12N50ES *2
	0.79Ω	8A	3.0±0.5V			FMP08N50E	FMV08N50E	FMI08N50E *2	FMC08N50E *2	
	0.85Ω	6.5A	3.0±0.5V			FMP07N50E	FMV07N50E	FMI07N50E	FMC07N50E	
	1.5Ω	5A	3.0±0.5V			FMP05N50E	FMV05N50E	FMI05N50E	FMC05N50E	

\*1 Under development (commercial products will be available in 2009/Q3)

\*2 In the planning stage

	RDS (on) max.	ID	VGS (th)	TO-3P(Q) 	TO-3PF 	TO-220 	TO-220F (SLS) 	I2-Pack 	D2-Pack (SMD) 	TFP (SMD) 
600V	0.28Ω	23A	4.2±0.5V	FMH23N60ES	FMR23N60ES					
	0.365Ω	19A	4.2±0.5V	FMH19N60ES	FMR19N60ES		FMV19N60ES			
	0.40Ω	17A	4.2±0.5V	FMH17N60ES	FMR17N60ES		FMV17N60ES			
	0.47Ω	16A	4.2±0.5V	FMH16N60ES	FMR16N60ES *2	FMP16N60ES	FMV16N60ES	FMI16N60ES	FMC16N60ES	FML16N60ES *2
	0.58Ω	13A	4.2±0.5V	FMH13N60ES	FMR13N60ES *2	FMP13N60ES	FMV13N60ES	FMI13N60ES	FMC13N60ES	FML13N60ES *2
	0.75Ω	12A	4.2±0.5V			FMP12N60ES	FMV12N60ES	FMI12N60ES	FMC12N60ES	FML12N60ES *2
	1.2Ω	6A	3.7±0.5V			FMP06N60ES	FMV06N60ES	FMI06N60ES	FMC06N60ES	
	2.3Ω	3A	3.0±0.5V			FMP03N60E	FMV03N60E	FMI03N60E	FMC03N60E	
650V	0.97Ω	9A	3.0±0.5V			FMP09N65E	FMV09N65E	FMI09N65E	FMC09N65E	
	1.47Ω	7A	3.0±0.5V			FMP07N65E	FMV07N65E	FMI07N65E	FMC07N65E	
700V	0.6Ω	15A	4.0±0.5V	FMH15N70E *1	FMR15N70E *1		FMV15N70E *1			
	0.9Ω	11A	4.0±0.5V	FMH11N70E *1	FMR11N70E *1		FMV11N70E *1			
	1.2Ω	9A	4.0±0.5V	FMH09N70E *1	FMR09N70E *1	FMP09N70E *1	FMV09N70E *1	FMI09N70E *1	FMC09N70E *1	
	1.5Ω	7A	4.0±0.5V	FMH07N70E *1	FMR07N70E *1	FMP07N70E *1	FMV07N70E *1	FMI07N70E *1	FMC07N70E *1	
800V	0.8Ω	13A	4.0±0.5V	FMH13N80E *1	FMR13N80E *1		FMV13N80E *1			
	1.1Ω	10A	4.0±0.5V	FMH10N80E *1	FMR10N80E *1		FMV10N80E *1			
	1.6Ω	8A	4.0±0.5V	FMH08N80E *1	FMR08N80E *1	FMP08N80E *1	FMV08N80E *1	FMI08N80E *1	FMC08N80E *1	
	2.0Ω	6A	4.0±0.5V	FMH06N80E *1	FMR06N80E *1	FMP06N80E *1	FMV06N80E *1	FMI06N80E *1	FMC06N80E *1	
900V	1.0Ω	11A	4.0±0.5V	FMH11N90E	FMR11N90E		FMV11N90E			
	1.4Ω	9A	4.0±0.5V	FMH09N90E	FMR09N90E		FMV09N90E			
	2.0Ω	7A	4.0±0.5V	FMH07N90E *1	FMR07N90E *1	FMP07N90E *1	FMV07N90E *1	FMI07N90E *1	FMC07N90E *1	
	2.5Ω	6A	4.0±0.5V	FMH06N90E *1	FMR06N90E *1	FMP06N90E *1	FMV06N90E *1	FMI06N90E *1	FMC06N90E *1	

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