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Product Focus – SuperJunction Low RDSON MOSFET

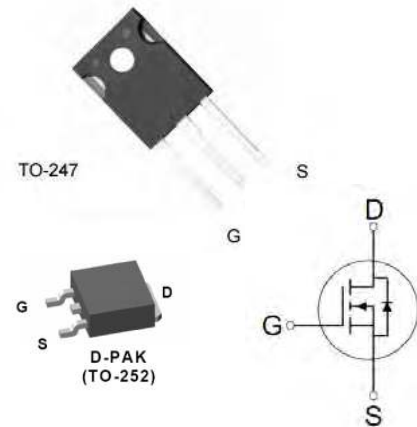


Based in South Korea, Magnchip Semiconductor was spun out of an LG Semiconductor and Hyundai Semiconductor JV for power devices.

Magnachip's current revenue is in excess of 800M USD providing high quality power devices to the power electronic market..

Magnachip uses its own wafer fabs to produce up to 130,000 8" wafers per month and is rapidly replacing Infineon and ST Microelectronics in the market.

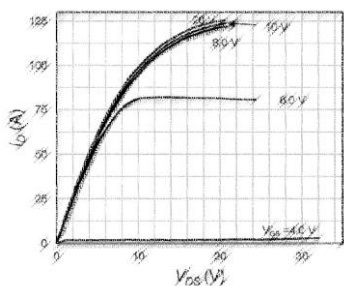
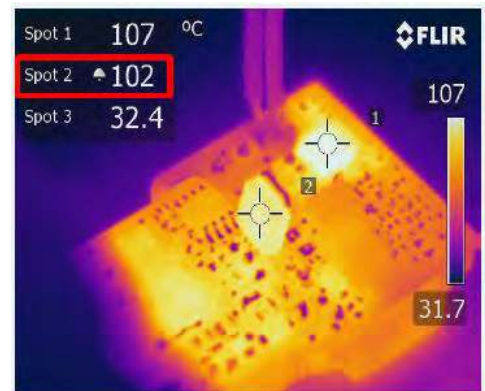
Certified ISO/TS 16949, ISO 14001, OHSAS 18001, REACH etc.



MAGNACHIP: 500V – 800V SUPERJUNCTION MOSFET

To date Magnachip has shipped over 200 million devices of it's advanced super junction technology that feature a very low on-resistance and reduced gate charge. By using their optimized charge coupling technology Magnachip's SJ MOSFET will increase efficiency in any power electronic system. These devices give further advantages of low switching loss and reduced EMI to system designers.

- High Efficiency via low on-state and low switching loss.
- 100% avalanche tested in production.
- Green Packaging – Pb free plating – Halogen Free Packaging.



Product Focus – SuperJunction Low RDS(on) MOSFET

MAGNACHIP: 500V – 600V SUPERJUNCTION MOSFET RANGE

Product Family	Product Number	V _{DS} [V]	I _D [A] 25°C	R _{ds(on)} [Ohm Max] at V _{gs} =10V		Q _g [nC, Typ]	Package
				Max	Typ		
500V N-Ch	MMF50R280PTH	500	13.0	0.280	0.250	28.6	TO-220F
	MMD50R380PRH	500	11.0	0.380	0.350	21.8	DKPAK
600V N-Ch	MMQ60R070PTH	600	53.0	0.070	0.063	132	TO-247
	MMQ60R115PTH	600	33.0	0.115	0.104	79	TO-247
	MMQ60R115PCTH	600	33.0	0.115	0.104	77	TO-247
	MMF60R115PTH	600	33.0	0.115	0.104	79	TO-220F
	MMFT60R115PCTH	600	33.0	0.115	0.104	77	TO-220FT
	MMQ60R190PTH	600	20.0	0.190	0.170	51	TO-247
	MML60R190PTH	600	20.0	0.190	0.170	51	TO-262
	MMF60R190PTH	600	20.0	0.190	0.170	51	TO-220F
	MMP60R190PTH	600	20.0	0.190	0.170	51	TO-220
	MMP60R195PCTH	600	20.0	0.195	0.175	44	TO-220
	MMFT60R195PTH	600	20.0	0.195	0.175	44	TO-220FT
	MMFT60R195PCTH	600	20.0	0.195	0.175	51	TO-220FT
	MML60R290PTH	600	13.0	0.290	0.260	33	TO-262
	MME60R290PRH	600	13.0	0.290	0.260	33	TO-263
	MMF60R290PTH	600	13.0	0.290	0.260	33	TO-220F
	MMFT60R290PTH	600	13.0	0.290	0.260	33	TO-220FT
	MMFT60R290PCTH	600	13.0	0.290	0.260	32	TO-220FT
	MMP60R290PTH	600	13.0	0.290	0.260	33	TO-220
	MMP60R290PCTH	600	13.0	0.290	0.260	32	TO-220
	MMF60R360PTH	600	11.0	0.360	0.320	28	TO-220F
	MMP60R360PTH	600	11.0	0.360	0.320	28	TO-220
	MMFT60R380PTH	600	11.0	0.380	0.350	28	TO-220FT
	MMFT60R380PCTH	600	11.0	0.380	0.350	25	TO-220FT
	MMP60R380PCTH	600	11.0	0.380	0.350	25	TO-220
	MMD60R360PBRH	600	11.0	0.380	0.350	28	DKPAK
	MMF60R580PTH	600	8.0	0.580	0.530	18	TO-220F
	MMP60R580PTH	600	8.0	0.580	0.530	18	TO-220
	MMD60R580PBRH	600	8.0	0.580	0.530	18	DKPAK
MMIS60R580PBTH	600	8.0	0.580	0.530	18	VS IPAK	
MMF60R750PTH	600	5.7	0.750	0.680	14	TO-220F	
MMP60R750PTH	600	5.7	0.750	0.680	14	TO-220	
MMD60R750PRH	600	5.7	0.750	0.680	14	DKPAK	
MMIS60R750PBTH	600	5.7	0.750	0.680	14	VS IPAK	
MMD60R900PBRH	600	4.5	0.900	0.810	12.3	DKPAK	
MMIS60R900PBTH	600	4.5	0.900	0.810	12.3	VS IPAK	



Product Focus – SuperJunction Low RDS(on) MOSFET

MAGNACHIP: 650V – 800V SUPERJUNCTION MOSFET RANGE

Product Family	Product Number	VDS [V]	ID [A] 25°C	Rds(on) [Ohm Max] at Vgs=10V		Qg [nC, Typ]	Package
				Max	Typ		
650V N-Ch	MML65R190PTH	650	20.0	0.190	0.170	53	TO-262
	MMF65R190PTH	650	20.0	0.190	0.170	53	TO-220F
	MMP65R190PTH	650	20.0	0.190	0.170	53	TO-220
	MMFT65R195PTH	650	20.0	0.195	0.175	53	TO-220FT
700V N-Ch	MME70R380PRH	700	11.0	0.380	0.340	30	TO-263
	MMFT70R380PTH	700	11.0	0.380	0.340	30	TO-220FT
	MMF70R600PTH	700	7.3	0.600	0.540	23	TO-220F
	MMD70R600PRH	700	7.3	0.600	0.540	23	DPAK
	MMD70R750PRH	700	5.8	0.750	0.670	18.5	DPAK
	MMF70R900PTH	700	5.0	0.900	0.810	15	TO-220F
	MMD70R900PBRH	700	5.0	0.900	0.810	15	DPAK
	MMIS70R900PBTH	700	5.0	0.900	0.810	15	VS IPAK
	MMIS70H900QTH	700	3.2	1.400	1.200	8	VS IPAK
	MMD70R1K4PBRH	700	3.2	1.400	1.260	11	DPAK
MMIS70R1K4PBTH	700	3.2	1.400	1.260	11	VS IPAK	
800V N-Ch	MME80R290PRH	800	TBD	0.290	TBD	TBD	TO-263
	MMF80R450PTH	800	TBD	0.450	TBD	TBD	TO-220F
	MMF80R650PTH	800	8.0	0.650	0.560	25.8	TO-220F
	MMF80R900PTH	800	6.0	0.900	0.780	17.6	TO-220F
	MMD80R900PRH	800	6.0	0.900	0.780	17.6	DPAK
	MMF80R1K2PTH	800	4.5	1.200	0.950	15.2	TO-220F

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SJ MOSFET

Package Options

- ↘ D : TO-252 (DPAK)
- ↘ E : TO-263 (D2PAK)
- ↘ F : TO-220F
- ↘ FT : TO-220F (Thin lead frame)
- ↘ IS : TO-251-VS (IPAK)
- ↘ L : TO-262 (I2PAK)
- ↘ P : TO-220
- ↘ Q : TO-247

V_{DS} Voltage

- ↘ 50: 500V
- ↘ 60: 600V
- ↘ 65: 650V
- ↘ 70: 700V
- ↘ 80: 800V

Max. RDS(on)

- ↘ R070 : 70mΩ
- ↘ R190 : 190mΩ
- ↘ R360 : 360mΩ
- ↘ R580 : 580mΩ
- ↘ R750 : 700mΩ
- ↘ R900 : 900mΩ
- ↘ R1K4 : 1.4Ω

Functional options

Blank : No Func.

1st Digit - Ver. Info.

- ↘ P : 1st Generation
- ↘ Q : 2nd Generation

2nd Digit – Revision

- Blank: No revision
- A : 1st revision
 - B : 2nd revision

Other options

1th Digit – Packing

- ↘ R: Tape & Reel
- ↘ T: Tube

2th Digit – RoHS

- ↘ P : Pb free
- ↘ H : Halogen Free

