

100V系列 N-沟道 JSFET® 满足多领域应用

100V-series JSFET® Well Suited for Applications in Diverse Market Segments



JSFET® 技术平台的 100V SGT MOSFETs, 具有行业领先的低导通阻抗及电气特性。捷捷微电会持续结合自有的先进芯片设计与封装技术, 不断提高产品效能, 志在国际一流, 从而满足日益增长的市场应用需求。

The 100V-series JSFET® offer outstanding performance and features. The devices are well suited for applications in diverse market segments. JieJie Micro. is committed to release further SGT MOSFETs built upon our core competence of advanced device & package design to achieve ever better performance.

导通阻抗 $R_{DS(ON)}$ 低至 1.8mΩ, FOM 低至 185, 所有产品均百分百通过 UIS 测试。凭借低 C_{OSS} (291pF) 及 Q_g (21nC), 这些元器件能更有效地解决在终端应用中存在的电感负载和软开关等难题。

With $R_{DS(ON)}$ as low as 1.8mΩ and FOM as low as 185, these devices are fully UIS tested. The very low C_{OSS} at 291pF and Q_g at 21nC make these devices effective at resolving the common inductive loading and soft switching issues.

此系列 MOSFETs 采用 PDFN5x6 及 TO220 / 251 / 252 / 263 封装, 优化的框架和引接工艺有效改善热应力, 提升质量和可靠性, 同时符合 RoHS 标准且不含卤素。

Packaged in the thermally efficient PDFN5x6 and TO220 / 251 / 252 / 263, the devices shipped are RoHS-compliant and halogen-free.

因为具备卓越的安全操作区域 (SOA), 这些元器件能充分满足各种终端在不同应用上的要求。包括在新能源电动车、电动工具、有线快充、BMS、太阳能电源、PoE 网络设备里的 BLDC 电机驱动、同步整流、负载平衡、H-桥等。

The safe operating area (SOA) of these devices are optimized for applications like BLDC motor driving, synchronous rectification, load balancing, H-bridge in e-vehicles, power tools, fast chargers, BMS, solar power, and power-over-ethernet (PoE) network equipment.

Key Aspects of 100V-series JSFET®

Optimized ON-state Resistance & Gate Charge

$R_{DS(ON)}$ @ $V_{GS}=10V$ at 1.8 ~ 9.4mΩ ensures that conduction loss is kept to a minimum. With Q_g as low as 21nC, the resulting figure-of-merit (FOM) at 185 ~ 261 offers reliability and robustness during operation.

Low Capacitance & Variable Gate Threshold Voltage

Wide range of C_{OSS} (down to 291pF) and C_{RSS} (down to 4.7pF) enable soft/hard switching. $V_{GS(th)}$ at either 1.2 ~ 2.5V to allow logic-level (1-cell battery) gate driving or at 2.0 ~ 4.0V to allow standard-level (interference free) gate driving.

Unclamped Inductive Switching Tested

Fully UIS tested during production to confirm the device's ability to withstand the avalanche energy commonly found in inductive loads.

Thermally Efficient & Diverse Packages

Through-hole packages TO220 / 251 and surface-mounted packages TO252 / 263 & PDFN5x6 optimized to keep the thermal resistance and stray inductance minimal.

Market Applications

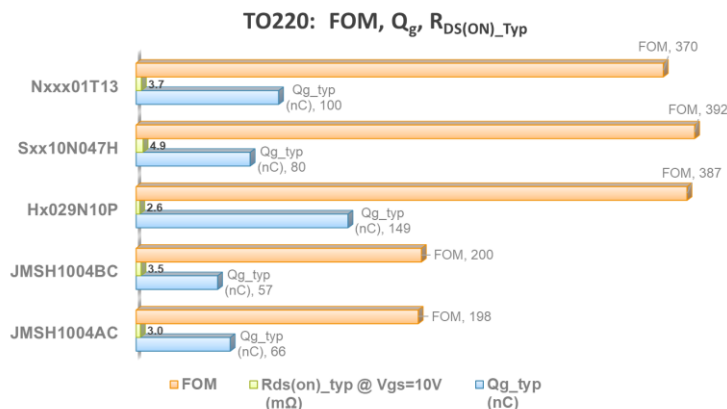
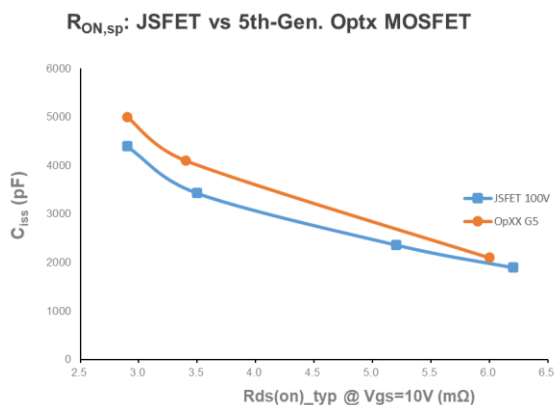
- Motor drive control in power tools, industrial equipment, e-bikes, pumps & actuators in HEV / BEV / FCEV
电机驱动 - 电动工具、工业设备、电动自行车、HEV / BEV / FCEV 里的泵及制动器
- Load balancing in battery management system (BMS) of consumer and industrial vehicles
电源开关 - 家用及工业汽车电池管理系统 (BMS)
- Backlighting in FPTV
LED 背光驱动 - FPTV
- Power management & OR-ing in the power sub-systems of data centers and telecommunications units
电源管理、OR-ing - 电信及数据中心电源
- Micro-inverting in solar power systems
微逆变 - 太阳能电源
- Synchronous rectification in secondary-side of AC/DC conversion
次级同步整流 - AC/DC 电源转换

Product Portfolio

Product Name	Package	V _{DS_Max} (V)	I _{D_Max} (A)	R _{DS(ON)_Typ} @ V _{GS} =10V (mΩ)	R _{DS(ON)_Max} @ V _{GS} =10V (mΩ)	V _{GS_Max} (V)	V _{GS(th)_Typ} (V)	E _{AS_Max} (mJ)	C _{iss_Typ} (pF)	C _{oss_Typ} (pF)	C _{rss_Typ} (pF)	Q _{g_Typ} (nC)	FOM
JMSH1002AC	TO220-3L	100	290	1.8	2.2	±20	2.7	720	9,675	3,000	19.0	145.0	261
JMSH1002AE	TO263-3L	100	290	1.8	2.2	±20	2.7	720	9,675	3,000	19.0	145.0	261
JMSL1003AG	PDFN5x6	100	135	2.8	3.4	±20	1.6	259	4,646	1,214	5.8	78.0	218
JMSH1003AG	PDFN5x6	100	144	2.8	3.5	±20	2.7	238	4,374	1,140	4.7	70.0	196
JMSL1004BG	PDFN5x6	100	117	3.4	4.1	±20	1.7	205	3,709	873	6.7	62.0	211
JMSH1004BG	PDFN5x6	100	112	3.3	4.3	±20	2.7	231	3,434	906	14.0	57.0	188
JMSH1006AG	PDFN5x6	100	100	6.2	7.8	±20	2.7	101	2,369	545	11.6	38.0	186
JMSL1008AG	PDFN5x6	100	93	6.0	7.6	±20	1.7	101	2,200	445	8.0	34.0	204
JMSH1008AG	PDFN5x6	100	92	3.0	3.6	±20	2.8	245	1,920	445	7.0	30.0	186
JMSH1010AG	PDFN5x6	100	66	3.5	4.2	±20	2.8	151	1,372	291	6.2	21.0	185
JMSH1004AC	TO220-3L	100	190	5.2	6.4	±20	2.7	130	4,398	1,361	8.5	66.0	198
JMSH1004BC	TO220-3L	100	139	6.8	8.0	±20	2.7	101	3,433	905	13.0	57.2	200
JMSH1006AC	TO220-3L	100	114	9.4	11.8	±20	2.7	68	2,369	545	11.6	38.0	198
JMSH1008AC	TO220-3L	100	95	3.0	3.6	±20	2.8	245	1,920	445	7.0	30.0	204
JMSH1010AC	TO220-3L	100	65	5.3	6.4	±20	2.8	130	1,372	291	6.2	21.0	197
JMSL1008AH	TO251-3L	100	82	6.7	8.1	±20	1.6	88	2,360	368	5.9	34.0	228
JMSL1006AK	TO252-3L	100	99	5.4	6.6	±20	1.7	125	2,604	567	9.6	42.0	227
JMSL1008AK	TO252-3L	100	82	6.7	8.1	±20	1.6	88	2,360	368	5.9	34.0	228
JMSH1004AE	TO263-3L	100	190	3.0	3.6	±20	2.7	245	4,398	1,361	8.5	66.0	198
JMSH1004BE	TO263-3L	100	139	3.5	4.2	±20	2.7	151	3,433	905	13.0	57.2	200
JMSH1006AE	TO263-3L	100	114	5.2	6.4	±20	2.7	130	2,369	545	11.6	38.0	198
JMSH1008AE	TO263-3L	100	95	6.8	8.0	±20	2.8	101	1,920	445	7.0	30.0	204
JMSH1010AE	TO263-3L	100	65	9.4	11.8	±20	2.8	68	1,372	291	6.2	21.0	197

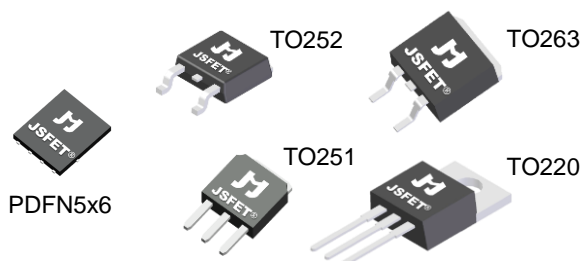
For more information, please visit <http://www.jjwdz.com>.

Benchmark Information



Shipping Information

Package	# of Pins	Media	Quantity (pcs)
PDFN5x6	8	13-inch Reel	3,000
TO220-3L	3	Tube	50
TO251-3L	3	Tube	80
TO252-3L	3	13-inch Reel	2,500
TO263-3L	3	13-inch Reel	800



Samples and production quantities of the 100V-series JSFET are available from sales_sh@jjwdz.com and authorized sales distributors.