

80/85V 系列 N-沟道 JSFET® 实现行业最佳 FOM

80/85V-series SGT N-MOSFETs in PDFN5x6 & TO-series Packages Offer Industry Leading FOM at 104



采用 JSFET® 技术平台的 80/85V SGT MOSFETs, 具备行业领先的超低导通阻抗及电气性能, 在实际应用中表现出高可靠性和高稳定性。

The 80/85V-series JSFET® offer outstanding performance and features. These devices are well suited for applications used in diverse market segments. JieJie Micro. is committed to release further SGT MOSFETs which are built upon our core competence on advanced device & package design know-how to achieve ever more exceptional performance.

导通阻抗 $R_{DS(ON)}$ 低至 1.5mΩ, 栅极电荷 Q_g 低至 35nC, FOM 值低至104, 所有产品在量产过程中均百分百通过 UIS 测试。因此, 在保证长期可靠性的同时, 导通损耗和开关损耗也被降到最低。

With $R_{DS(ON)}$ as low as 1.5mΩ, Q_g as low as 35nC, FOM as low as 104, these devices are fully UIS tested during manufacturing. As a result, the conduction and switching losses are minimized without adversely affecting the long-term reliability.

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), 这些元器件充分满足不同终端在电机驱动和电源管理等应用方面的需求。包括电动工具、电动自行车、HEV / BEV / FCEV 等新能源汽车、消费类机器人、开关电源模组等终端。

Bearing excellent SOA (safe operating area) performance, end equipment like power tools, e-bikes, battery-embedded vehicles (HEV, BEV, FCEV), consumer-grade robots, and switched-mode power supplies shall find these devices indispensable in applications like motor driving and power management.

Key Aspects of 80/85V-series JSFET®

Optimized ON-state Resistance & Gate Charge

$R_{DS(ON)}$ @ $V_{GS}=10V$ ranging between 1.5 ~ 4.2mΩ ensure that conduction loss is kept to a minimum. Q_g are optimized to offer outstanding figure-of-merit (FOM) at 104 ~ 285.

Low Capacitance & Adaptive Gate Threshold Voltage

Wide range of C_{oss} (down to 677pF) and C_{rss} (down to 8pF) enable soft/hard switching. $V_{GS(th)}$ at either 1.2 ~ 2.5V to allow logic-level gate driving or at 2.0 ~ 4.0V to allow standard-level gate driving.

Unclamped Inductive Switching Test

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

Thermally Efficient & Diverse Packages

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

Market Applications

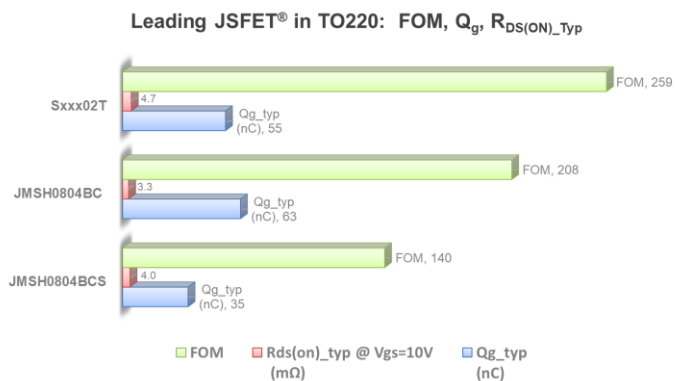
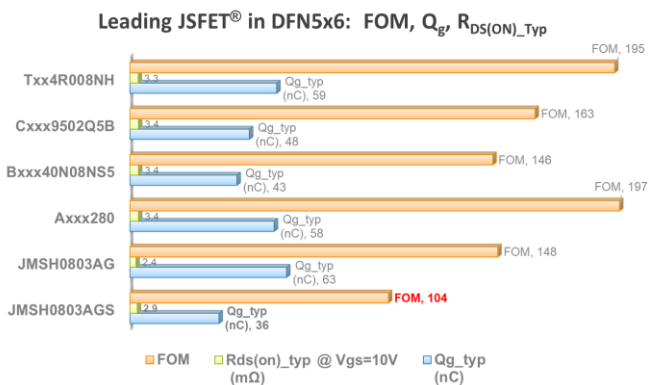
- Motor drive control in power tools, industrial equipment, e-bikes, pumps & actuators in HEV / BEV / FCEV & appliances
电机驱动 - 电动工具、工业设备、电动自行车、HEV / BEV / FCEV / 电器里的泵及制动器
- Load switching in 48 / 72V systems
负载电源开关 - 48 / 72V 系统
- Load balancing & protection in battery management system in consumer & industrial vehicles
ED backlighting in FPTV
负载平衡、反向保护 - 消费类和工业类车辆的电池管理系统 (BMS)
- Power management & OR-ing in the power sub-systems of data centers and telecommunications units
电源管理、OR-ing - 电信和数据中心电源
- 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)	EAS_Max (mJ)	C _{iss_Typ} (pF)	C _{oss_Typ} (pF)	C _{rss_Typ} (pF)	Q _{g_Typ} (nC)	FOM
JMSH0802AC	TO220-3L	80	300	1.5	1.9	±20	2.8	696	12,007	3,462	28.9	190.0	285
JMSH0802AE	TO263-3L	80	300	1.5	1.9	±20	2.8	696	12,007	3,462	28.9	190.0	285
JMSH0803AG	PDFN5x6	80	143	2.4	2.8	±20	2.8	180	4,250	1,340	8.0	63.0	148
JMSL0803AG	PDFN5x6	80	128	2.8	3.5	±20	1.8	180	3,960	1,290	9.0	63.0	176
JMSH0804AG	PDFN5x6	80	126	2.8	3.6	±20	2.8	180	3,780	1,370	22.0	63.0	176
JMSH0803AGS	PDFN5x6	80	144	2.9	3.6	±20	2.8	266	2,107	1,624	19.0	35.8	104
JMSH0804AGS	PDFN5x6	80	112	3.8	4.6	±20	2.8	231	2,107	1,624	19.0	35.8	136
JMSH0805AG	PDFN5x6	85	107	3.7	4.5	±20	2.7	115	2,451	677	18.0	39.7	147
JMSH0803AC	TO220-3L	80	194	2.5	3.0	±20	2.9	304	5,552	2,010	35.0	88.0	220
JMSH0804BC	TO220-3L	85	146	3.3	4.0	±20	2.8	180	4,060	1,341	9.0	63.0	208
JMSH0804AC	TO220-3L	80	139	3.6	4.5	±20	2.8	180	3,783	1,373	22.0	63.0	227
JMSH0804BCS	TO220-3L	85	132	4.0	5.0	±20	2.8	180	2,083	1,142	18.0	35.0	140
JMSH0805AC	TO220-3L	85	121	4.2	5.0	±20	2.7	115	2,451	677	18.0	39.7	167
JMSH0804AH	TO251-3L	80	101	3.6	4.2	±20	2.8	180	3,783	1,373	22.0	63.0	227
JMSH0804AK	TO252-3L	80	101	3.6	4.2	±20	2.8	180	3,783	1,373	22.0	63.0	227
JMSH0803AE	TO263-3L	80	194	2.5	3.0	±20	2.9	304	5,552	2,010	35.0	88.0	220
JMSH0804BE	TO263-3L	85	146	3.3	4.0	±20	2.8	180	4,060	1,341	9.0	63.0	208
JMSH0804AE	TO263-3L	80	139	3.6	4.5	±20	2.8	180	3,783	1,373	22.0	63.0	227
JMSH0804BES	TO263-3L	85	132	4.0	5.0	±20	2.8	180	2,083	1,142	18.0	35.0	140
JMSH0805AE	TO263-3L	85	121	4.2	5.0	±20	2.7	115	2,451	677	18.0	39.7	167

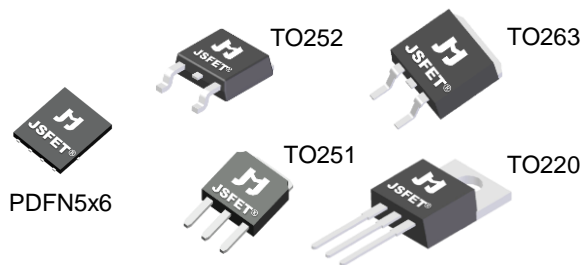
For more information, please visit <http://www.jjwdz.com>.

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 80/85V-series JSFET are available from sales_sh@jjwdz.com and authorized sales distributors.