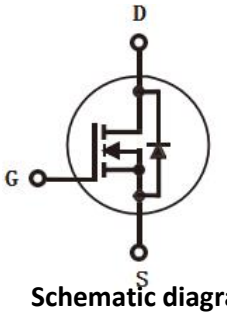
迈诺斯科技

MPF10N65

Silicon N-Channel Power MOSFET

Description

The MPF10N65 uses advanced trench technology and design to provide excellent RDS(ON)with low gate charge. It can be used in a wide variety of applications.



Schematic diagram

TO-220F

General Features

① VDS=10A，ID=650V
② RDS(on)(typ)=0.6Ω@VGS=10V,ID=4.0A
③ Low Crss:18.5pF@25V
④ Fast switching
⑤ Improved dv/dt capability

Application

① Switch Mode Power Supply (SMPS)
② Uninterruptible Power Supply (UPS)
③ Power Factor Correction (PFC)

Package Marking and Ordering Information

Ordering Codes	Package	Product Code	Packing
MPF10N65	TO-220F	MPF10N65	Tube

Electronic Characteristics （Tc=25℃）

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Drain-source Breakdown Voltage	BVDSS	VGS=0V,ID=250μA	650			V
Gate Threshold Voltage	VGS(TH)	VGS=VDS,ID=250μA	3.0		4.0	V
Drain-source Leakage Current	IDSS	VDS=650V,VGS=0V,Tj=25℃			1	μA
		VDS=520V,VGS=0V,Tj=125℃			100	μA
Gate-body Leakage Current(VDS=0)	IGSS	VGS=±30V			±100	nA
Static Drain-source On Resistance	RDS(ON)	VGS=10V,ID=4.0A		0.6	0.7	Ω
Input Capacitance	Ciss	VGS=0V,VDS=25V, F=1.0MHZ		1110		pF
Onput Capacitance	Coss			106		pF
Reverse Transfer Capacitance	Crss			13		pF

Turn-On Delay Time	Td(on)	V_{DD}=325V, I_D=10A R_G=25Ω		39		ns
Turn-On Rise Time	Tr			10		ns
Turn-Off Delay Time	Td(off)			152		ns
Turn-Off Fall Time	Tf			42		ns
Total Gate Charge	Qg	I_D=10A, V_{DS}=520V V_{GS}=10V		37		nC
Gate-to-Source Charge	Qgs			5		nC
Gate-to-Drain Charge	Qgd			24		nC
Continuous Diode Forward Current	Is				10	A
Diode Forward Voltage	VSD	Tj=25℃,Is=12.0A VGS=,0V III			1.4	V
Reverse Recovery Time	Trr	Tj=25℃,If=12.0A di/dt=100A/μS III		601		ns
Reverse Recovery Charge	Qrr			2.3		uC

Notes:

1. Repetitive rating:Pulse width limited by maximum junction temperature
2. StartingTj=25℃， VDD=50V,L=10mH,RG=25Ω,IAS=9.0A
3. PulseTest:Pulse width≤300μs,Duty cycle≤2%

Typical Characteristics TJ = 25ºC, unless otherwise noted

Figure 1. Output Characteristics (T_J= 25ºC)

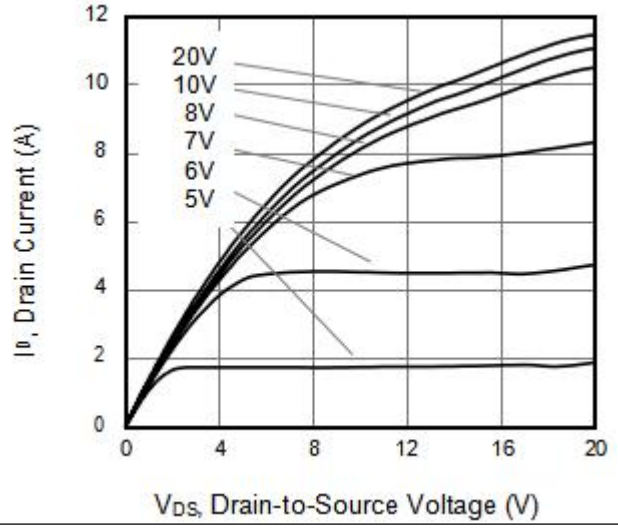


Figure 2. Body Diode ForwardVoltage

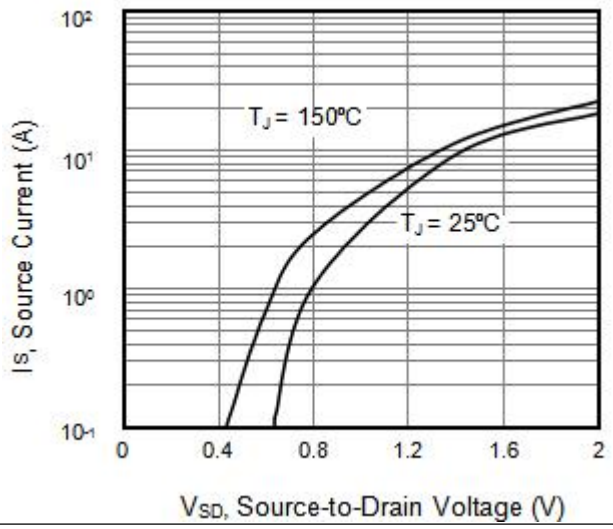


Figure 3. Drain Currentvs. Temperature

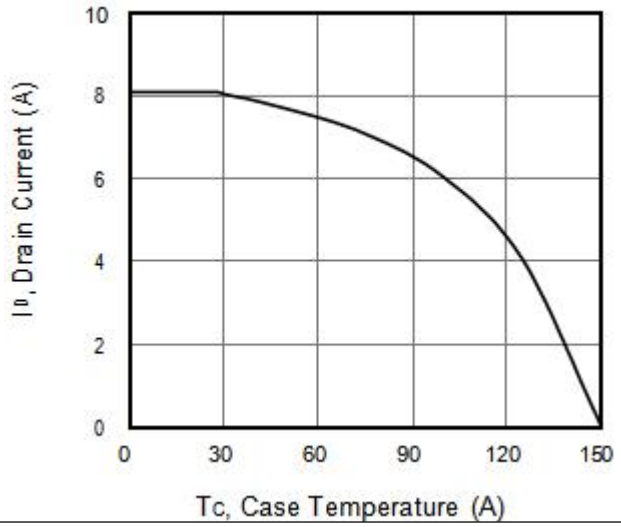


Figure 4. BV_{DSS} Variation vs.Temperature

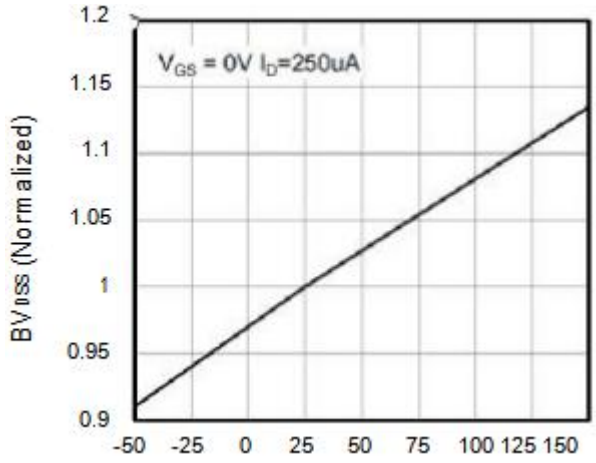


Figure 5. Transfer Characteristics

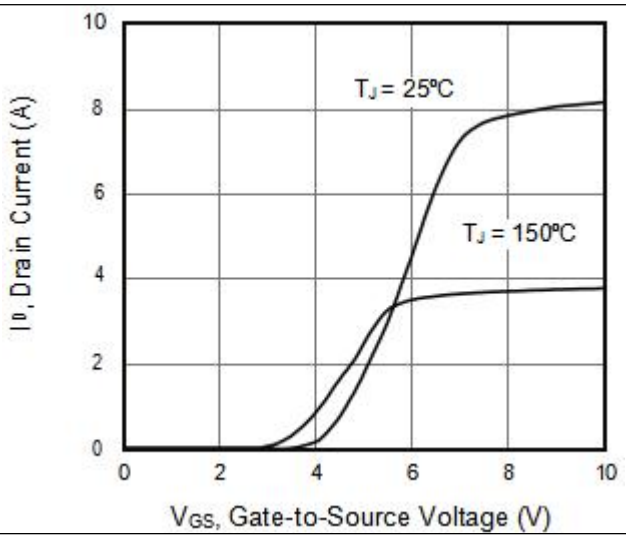


Figure 6. On-Resistance vs.Temperature

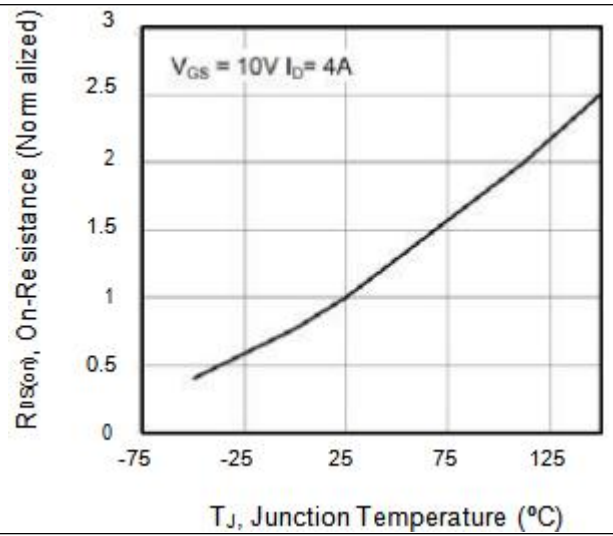


Figure 7. Capacitance

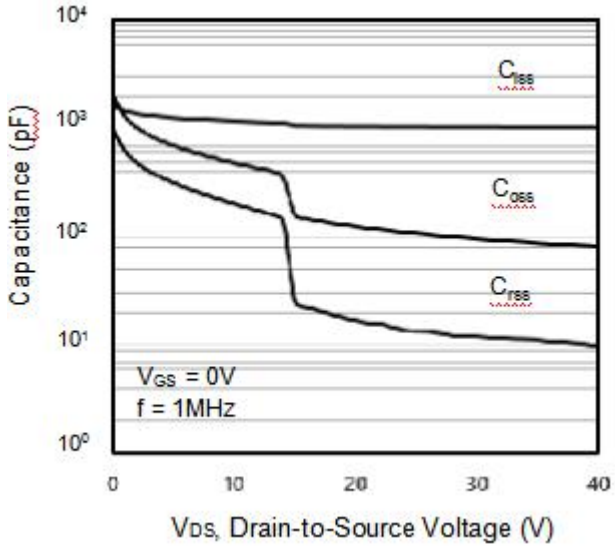


Figure 8. Gate Charge

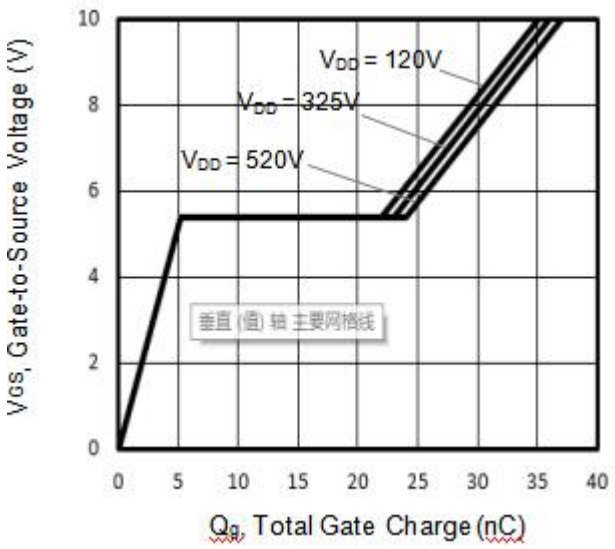


Figure 9. Transient Thermal Impedance

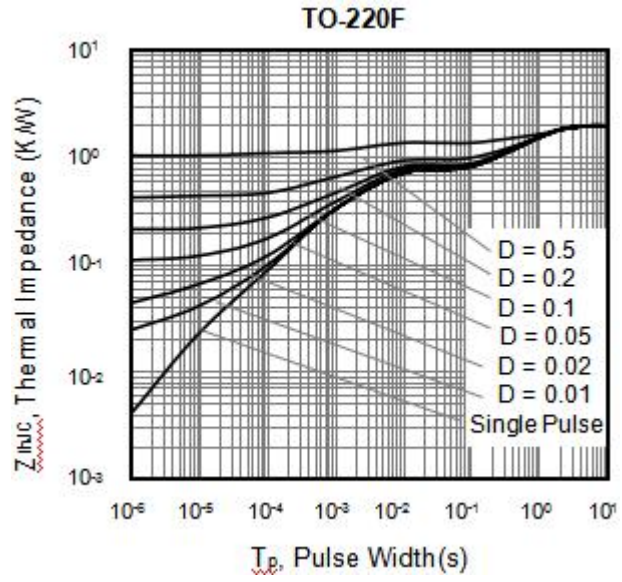


Figure A：Gate Charge Test Circuit and Waveform

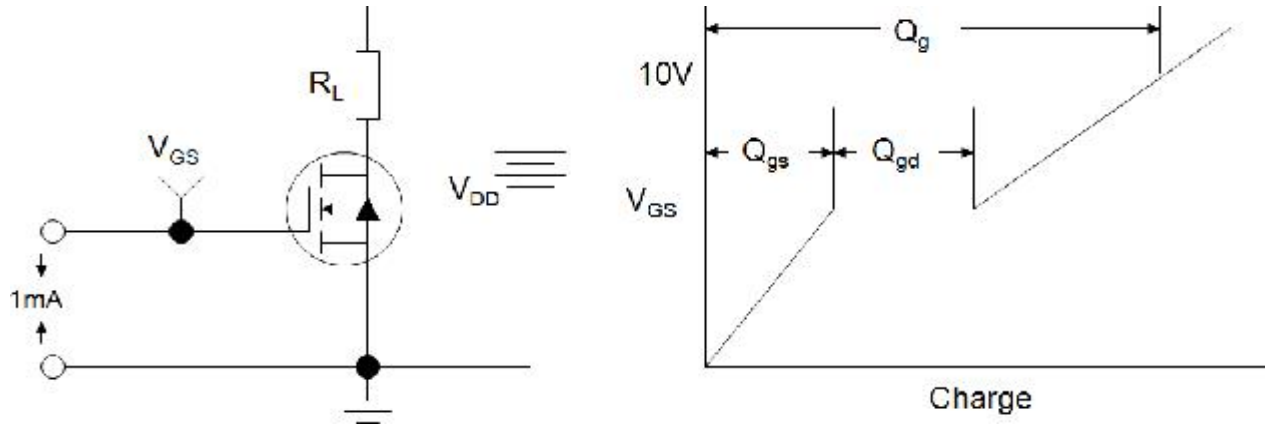


Figure B：Resistive Switching Test Circuit and Waveform

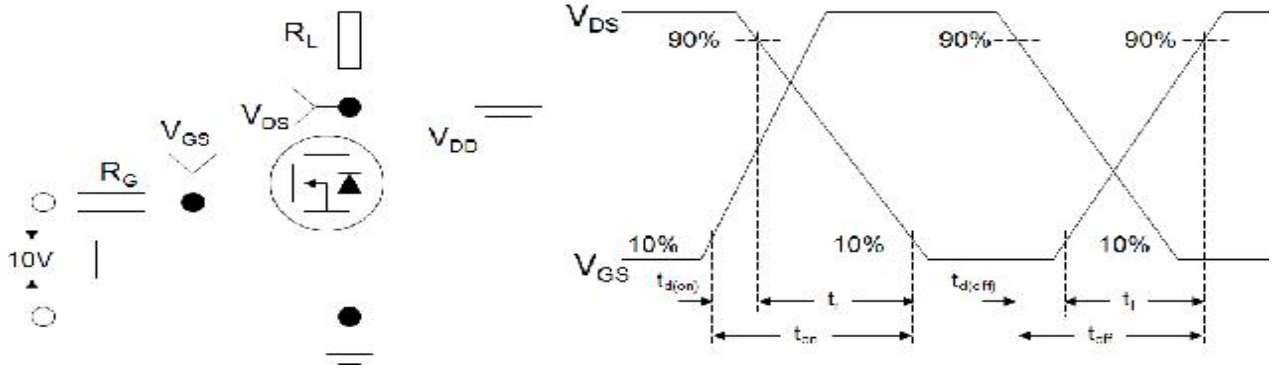
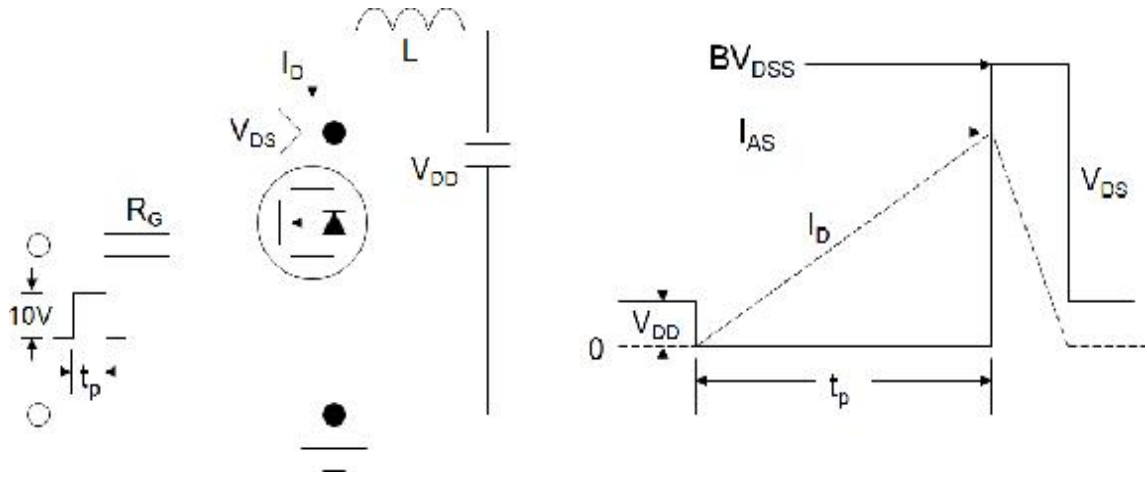
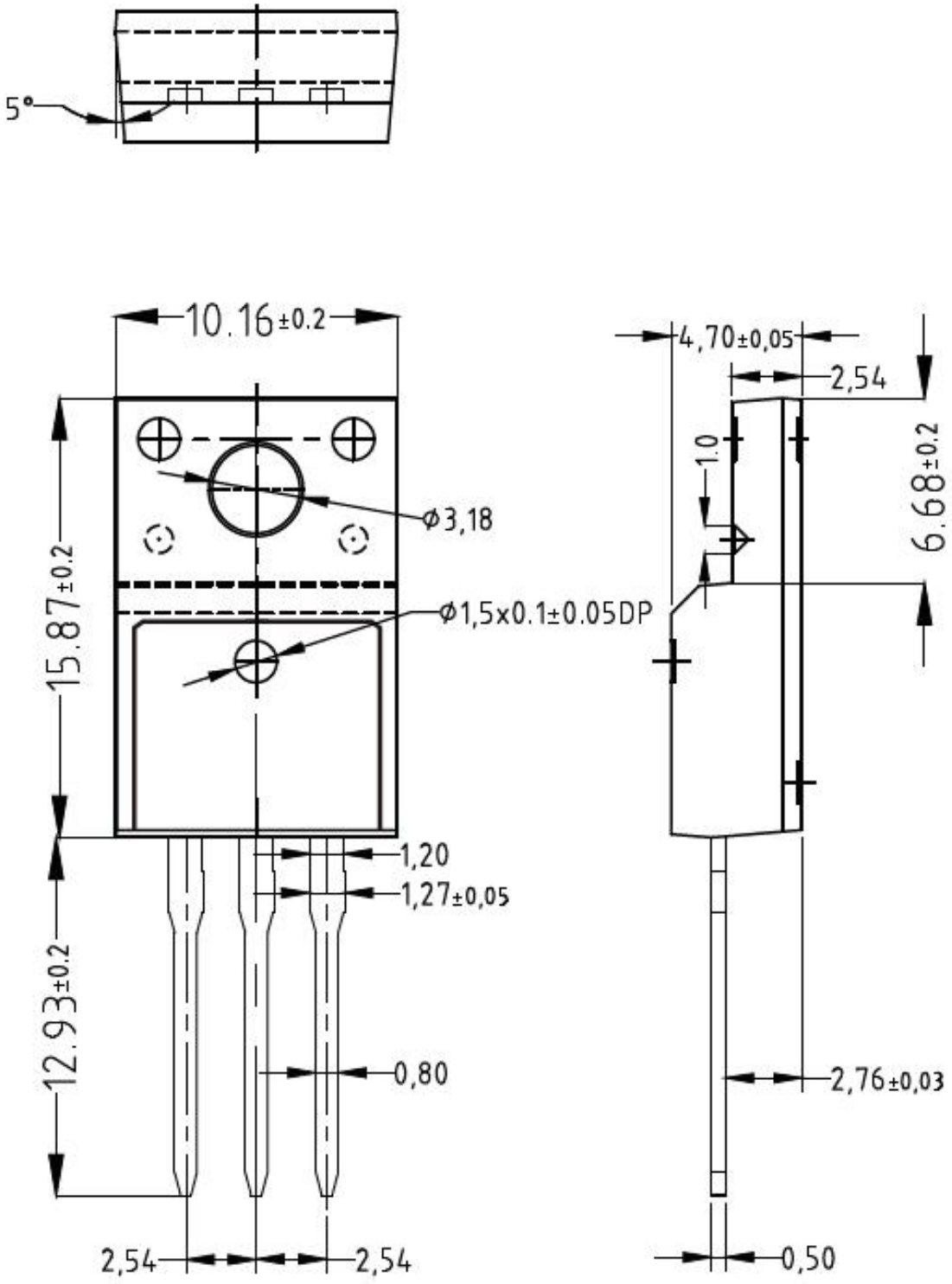


Figure C：Unclamped Inductive Switching Test Circuit and Waveform



Package Information



NOTE:

1. Exceeding the maximum ratings of the device in performance may cause damage to the device, even the permanent failure, which may affect the dependability of the machine. Please do not exceed the absolute maximum ratings of the device when circuit designing.
2. When installing the heat sink, please pay attention to the torsional moment and the smoothness of the heat sink.
3. MOSFETs is the device which is sensitive to the static electricity, it is necessary to protect the device from being damaged by the static electricity when using it.
4. Shenzhen Minos reserves the right to make changes in this specification sheet and is subject to change withoutprior notice.

CONTACT:

深圳市迈诺斯科技有限公司（总部）

地址：深圳市福田区华富街道田面社区深南中路4026号田面城市大厦22B-22C

邮编：518025

电话：0755-83273777

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for MOSFET ***category:***

Click to view products by Minos ***manufacturer:***

Other Similar products are found below :

IRFD120 IRFY240C JANTX2N5237 2SK2267(Q) BUK455-60A/B MIC4420CM-TR VN1206L NDP4060 SI4482DY IPS70R2K0CEAKMA1 SQD23N06-31L-GE3 TK16J60W,S1VQ(O 2SK2614(TE16L1,Q) DMN1017UCP3-7 EFC2J004NUZTDG DMN1053UCP4-7 SQJ469EP-T1-GE3 NTE2384 DMC2700UDMQ-7 DMN2080UCB4-7 DMN61D9UWQ-13 US6M2GTR DMN31D5UDJ-7 DMP22D4UFO-7B DMN1006UCA6-7 DMN16M9UCA6-7 STF5N65M6 IRF40H233XTMA1 STU5N65M6 DMN6022SSD-13 DMN13M9UCA6-7 DMTH10H4M6SPS-13 DMN2990UFB-7B IPB80P04P405ATMA2 2N7002W-G MCAC30N06Y-TP MCQ7328-TP NTMC083NP10M5L NVMFS2D3P04M8LT1G BXP7N65D BXP4N65F AOL1454G WMJ80N60C4 BXP2N20L BXP2N65D BXT1150N10J BXT1700P06M TSM60NB380CP ROG RQ7L055BGTCR DMNH15H110SK3-13