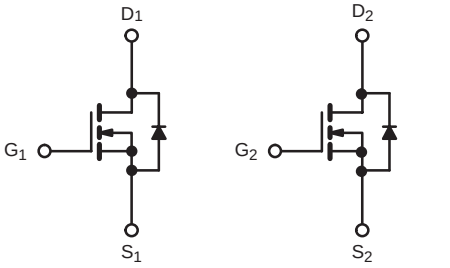
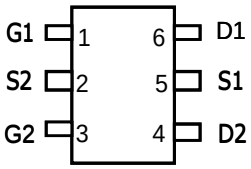
Dual N-Channel MOSFET

PRODUCT SUMMARY

- $V_{DS\ (V)}$=20V
- $R_{DS(ON)}$ < 30mΩ (V_{GS} = 10 V)
- $R_{DS(ON)}$ < 43 mΩ (V_{GS} = 4.5V)



N-Channel MOSFET N-Channel MOSFET



SOT23-6

ABSOLUTE MAXIMUM RATINGS T_A = 25 °C, unless otherwise noted

Parameter		Symbol	Limit	Unit
Drain-Source Voltage		V_{DS}	20	V
Gate-Source Voltage		V_{GS}	± 12	
Continuous Drain Current (T_J = 150 °C)	T_C = 25 °C	I_D	6.0	A
	T_C = 70 °C		4.0	
	T_A = 25 °C		3.5[b, c]	
	T_A = 70 °C		2.8[b, c]	
Pulsed Drain Current		I_{DM}	18	
Continuous Source-Drain Diode Current	T_C = 25 °C	I_S	1.17	
	T_A = 25 °C		0.95[b, c]	
Maximum Power Dissipation	T_C = 25 °C	P_D	1.6	W
	T_C = 70 °C		1.0	
	T_A = 25 °C		1.14[b, c]	
	T_A = 70 °C		0.73[b, c]	
Operating Junction and Storage Temperature Range		T_J, T_{stg}	- 55 to 150	°C
Soldering Recommendations (Peak Temperature)[d, e]			260	

THERMAL RESISTANCE RATINGS

Parameter		Symbol	Typical	Maximum	Unit
Maximum Junction-to-Ambient[b, d]	t ≤ 5 s	R_{thJA}	93	110	°C/W
Maximum Junction-to-Foot	Steady State	R_{thJF}	75	90	

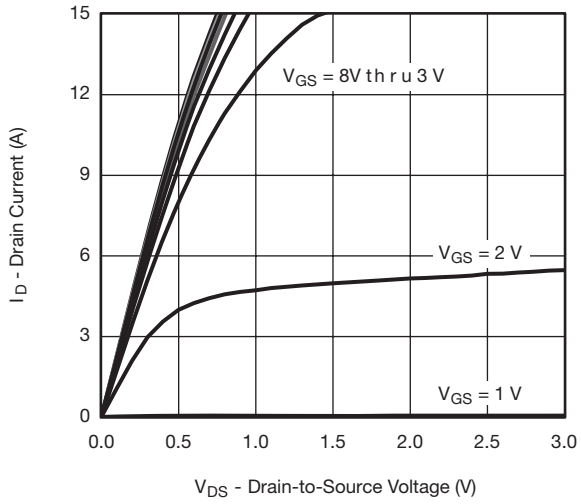
Notes:
a. T_C = 25 °C.
b. Surface Mounted on 1" x 1" FR4 board.
c. t = 5 s.
d. Maximum under steady state conditions is 150 °C/W.

SPECIFICATIONS T_J = 25 °C, unless otherwise noted

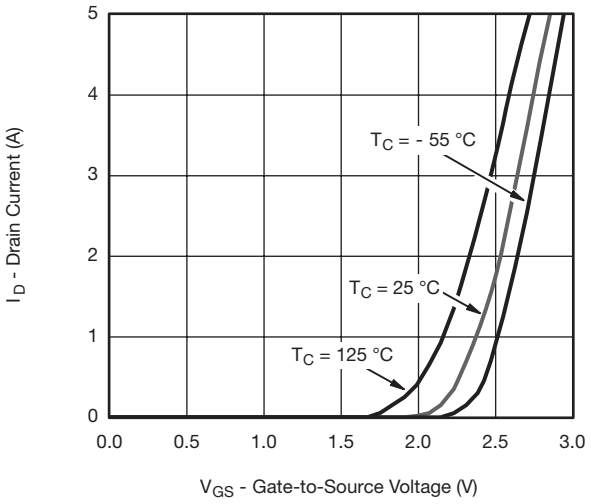
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Static						
Drain-Source Breakdown Voltage	V_{DS}	V_{GS} = 0 V, I_D = 250 µA	20			V
V_{DS} Temperature Coefficient	$\Delta V_{DS}/T_J$	I_D = 250 µA		29		mV/°C
$V_{GS(th)}$ Temperature Coefficient	$\Delta V_{GS(th)}/T_J$			- 4		
Gate-Source Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS} , I_D = 250 µA	0.4		1.5	V
Gate-Source Leakage	I_{GSS}	V_{DS} = 0 V, V_{GS} = ± 20 V			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 20 V, V_{GS} = 0 V			1	µA
		V_{DS} = 20 V, V_{GS} = 0 V, T_J = 55 °C			10	
On-State Drain Current[a]	$I_{D(on)}$	V_{DS} ≥ 5 V, V_{GS} = 10 V	10			A
Drain-Source On-State Resistance[a]	$R_{DS(on)}$	V_{GS} = 10 V, I_D = 3.4 A		30		mΩ
		V_{GS} = 4.5 V, I_D = 3.0 A		43		
Forward Transconductance[a]	g_{fs}	V_{DS} = 10 V, I_D = 3.4 A		10		S
Dynamic[b]						
Input Capacitance	C_{iss}	V_{DS} = 10 V, V_{GS} = 0 V, f = 1 MHz		400		pF
Output Capacitance	C_{oss}			55		
Reverse Transfer Capacitance	C_{rss}			26		
Total Gate Charge	Q_g	V_{DS} = 10 V, V_{GS} = 10 V, I_D = 3.4 A		3.7	6	nC
		V_{DS} = 10 V, V_{GS} = 4.5 V, I_D = 3.4 A		1.8	3	
Gate-Source Charge	Q_{gs}			0.74		
Gate-Drain Charge	Q_{gd}			0.42		
Gate Resistance	R_g	f = 1 MHz	1	5	10	Ω
Turn-On Delay Time	$t_{d(on)}$	V_{DD} = 10 V, R_L = 5.6 Ω I_D ≅ 2.7 A, V_{GEN} = 4.5 V, R_g = 1 Ω		10	20	ns
Rise Time	t_r			15	30	
Turn-Off Delay Time	$t_{d(off)}$			10	20	
Fall Time	t_f			10	20	
Turn-On Delay Time	$t_{d(on)}$	V_{DD} = 10 V, R_L = 5.6 Ω I_D ≅ 2.7 A, V_{GEN} = 10 V, R_g = 1 Ω		5	10	
Rise Time	t_r			15	30	
Turn-Off Delay Time	$t_{d(off)}$			10	20	
Fall Time	t_f			10	20	
Drain-Source Body Diode Characteristics						
Continuous Source-Drain Diode Current	I_S	T_C = 25 °C		1.2		A
Pulse Diode Forward Current	I_{SM}			18		
Body Diode Voltage	V_{SD}	I_S = 2.7 A, V_{GS} = 0 V		0.85	1.2	V
Body Diode Reverse Recovery Time	t_{rr}	I_F = 2.7 A, dI/dt = 100 A/µs, T_J = 25 °C		10	20	ns
Body Diode Reverse Recovery Charge	Q_{rr}			4	10	nC
Reverse Recovery Fall Time	t_a			6		ns
Reverse Recovery Rise Time	t_b			4		

Notes:
a. Pulse test; pulse width ≤ 300 µs, duty cycle ≤ 2 %
b. Guaranteed by design, not subject to production testing.

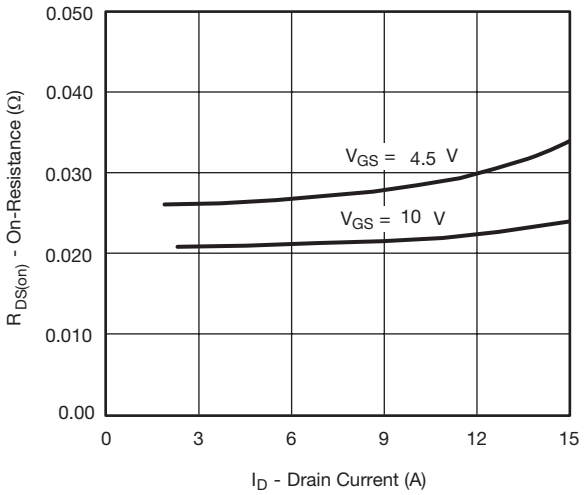
TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted



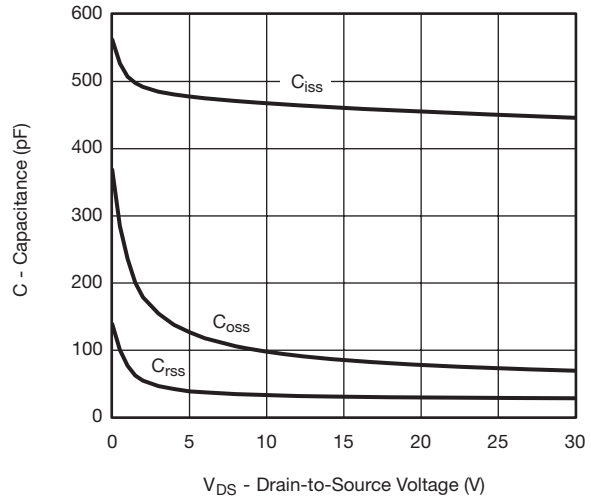
Output Characteristics



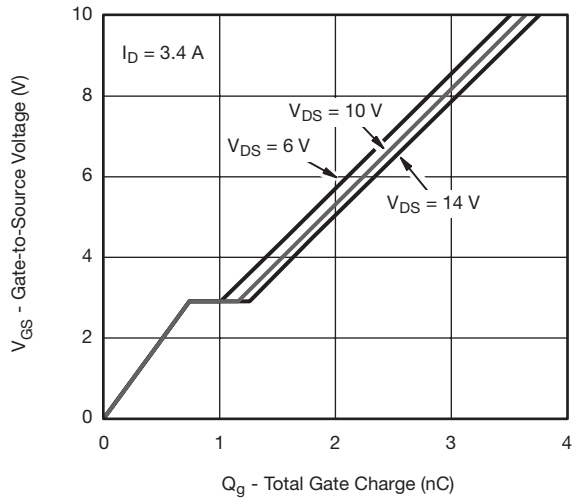
Transfer Characteristics



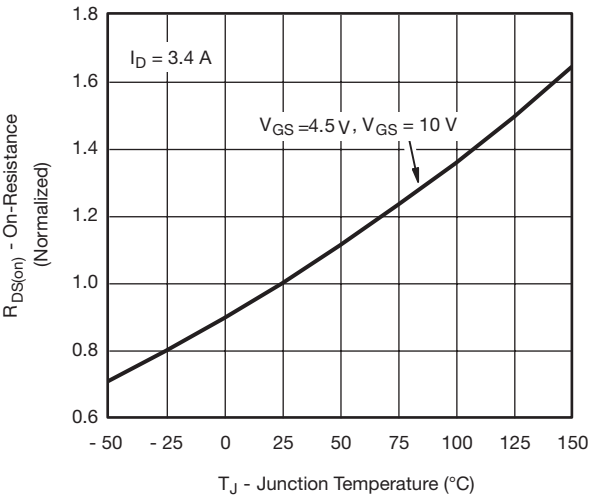
On-Resistance vs. Drain Current and Gate Voltage



Capacitance

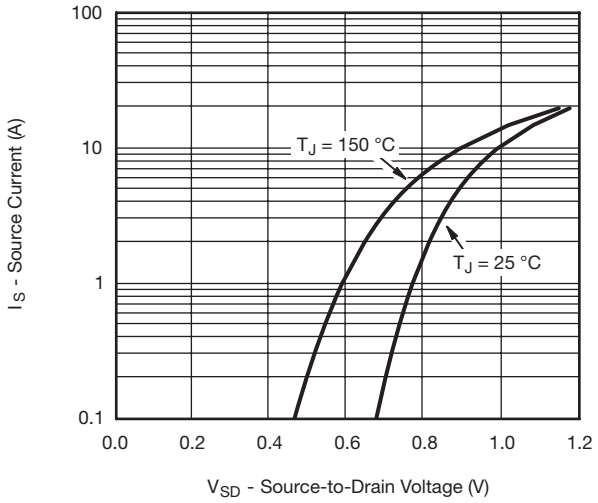


Gate Charge

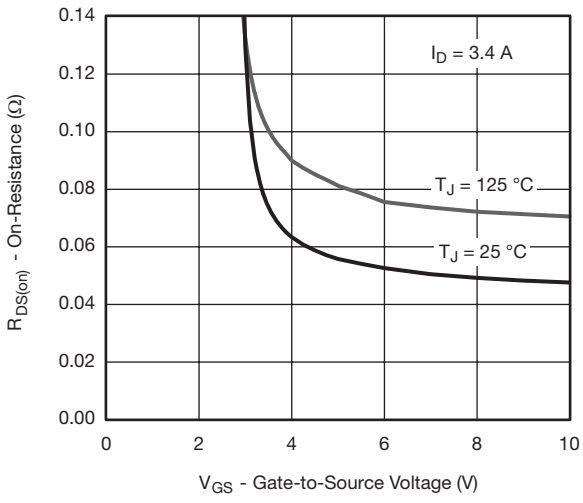


On-Resistance vs. Junction Temperature

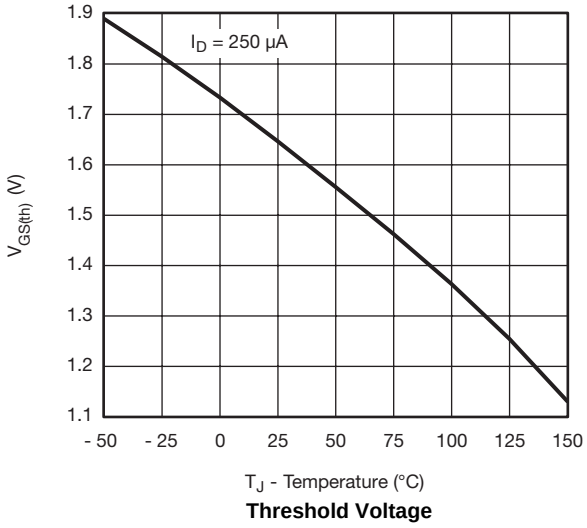
TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted



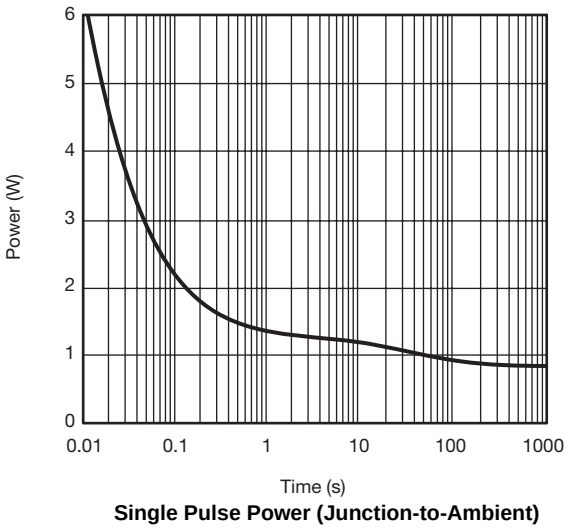
Source-Drain Diode Forward Voltage



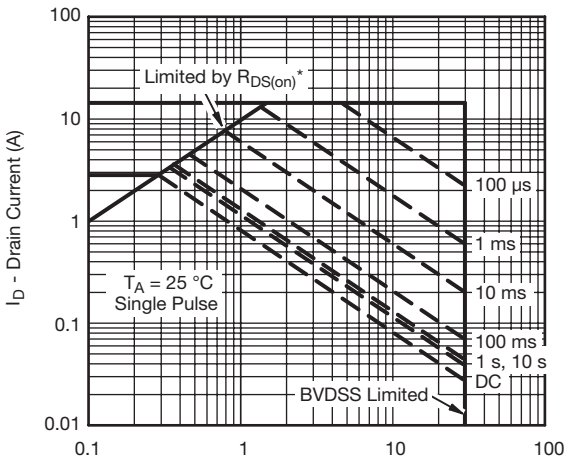
On-Resistance vs. Gate-to-Source Voltage



Threshold Voltage



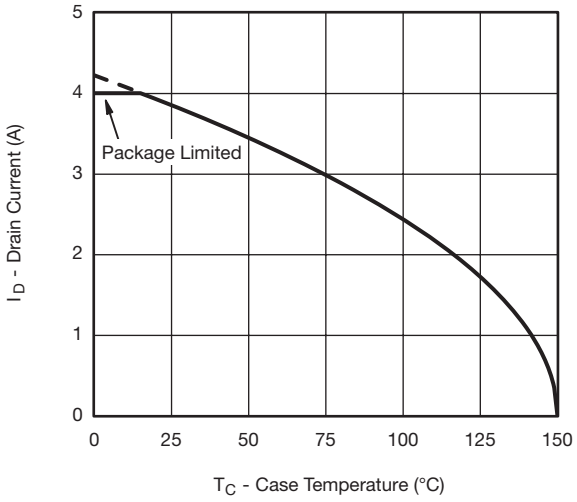
Single Pulse Power (Junction-to-Ambient)



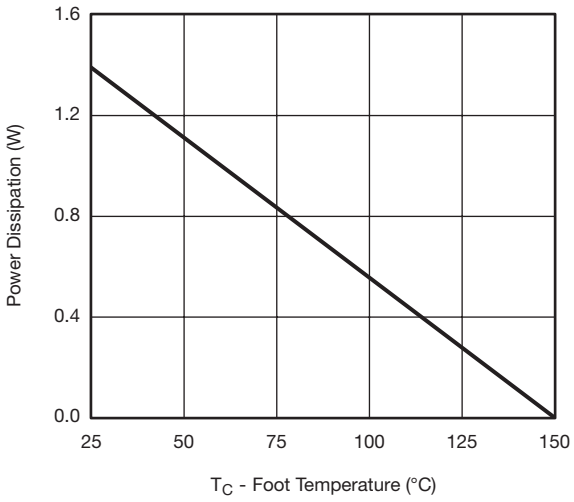
* V_{GS} > minimum V_{GS} at which $R_{DS(on)}$ is specified

Safe Operating Area, Junction-to-Ambient

TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted



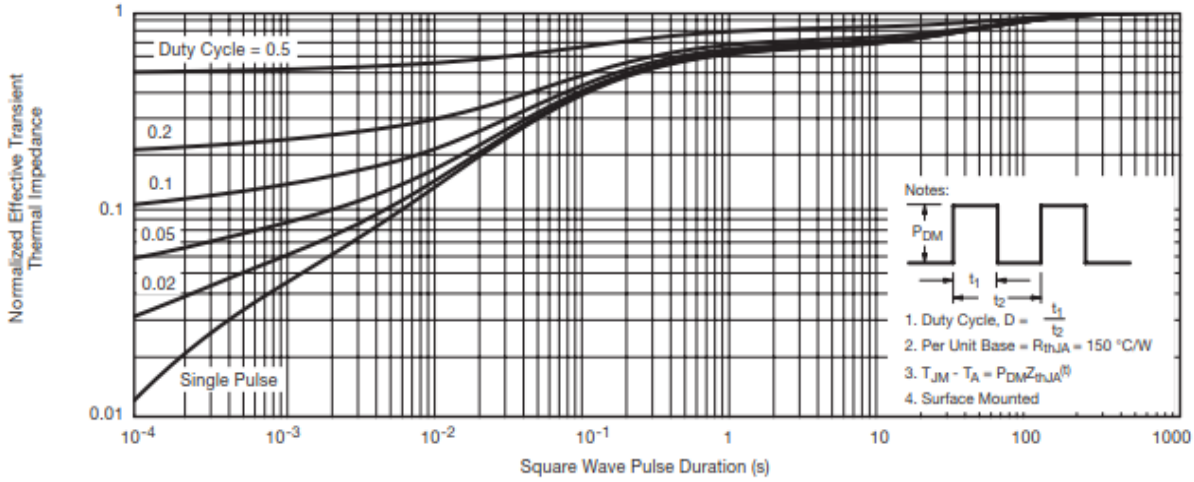
Current Derating*



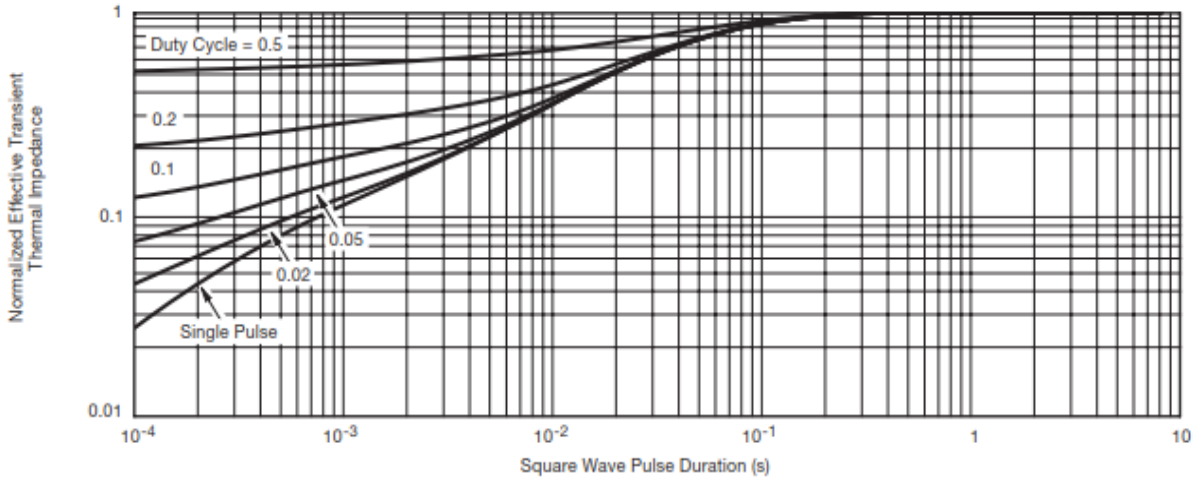
Power Derating

* The power dissipation P_D is based on $T_{J(max)}$ = 150 °C, using junction-to-case thermal resistance, and is more useful in settling the upper dissipation limit for cases where additional heatsinking is used. It is used to determine the current rating, when this rating falls below the package limit.

TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted



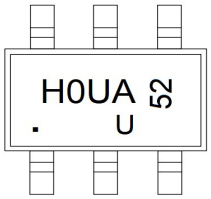
Normalized Thermal Transient Impedance, Junction-to-Ambient



Normalized Thermal Transient Impedance, Junction-to-Foot

SOT23- 6 PACKAGE OUTLIE DIMENSIONS

Marking



Ordering information

Order code	Package	Baseqty	Deliverymode
UMW AO6800	SOT23-6	3000	Tape and reel

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

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

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

Other Similar products are found below :

IRFD120 JANTX2N5237 2SK2267(Q) BUK455-60A/B TK100A10N1,S4X(S MIC4420CM-TR VN1206L NDP4060 SI4482DY IRS2092STRPBF-EL IPS70R2K0CEAKMA1 TK31J60W5,S1VQ(O TK31J60W,S1VQ(O TK16J60W,S1VQ(O 2SK2614(TE16L1,Q) DMN1017UCP3-7 EFC2J004NUZTDG P85W28HP2F-7071 DMN1053UCP4-7 NTE2384 DMC2700UDMQ-7 DMN2080UCB4-7 DMN61D9UWQ-13 US6M2GTR DMN31D5UDJ-7 DMP22D4UFO-7B IPS60R3K4CEAKMA1 DMN1006UCA6-7 DMN16M9UCA6-7 STF5N65M6 IRF40H233XTMA1 STU5N65M6 DMN6022SSD-13 DMN13M9UCA6-7 DMTH10H4M6SPS-13 IPS60R360PFD7SAKMA1 DMN2990UFB-7B SSM3K35CT,L3F IPLK60R1K0PFD7ATMA1 2N7002W-G MCAC30N06Y-TP IPWS65R035CFD7AXKSA1 MCQ7328-TP SSM3J143TU,LXHF PJMF280N65E1_T0_00201 PJMF380N65E1_T0_00201 PJMF280N60E1_T0_00201 PJMF600N65E1_T0_00201 PJMF900N65E1_T0_00201 PJMF900N60E1_T0_00201