Features

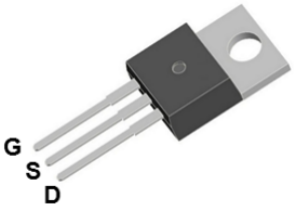
- Low On-resistance
- Low gate charge
- Low intrinsic capacitance
- Extremely fast switching

Product Summary

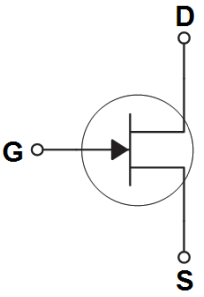
V_{DS}	650	V
$R_{DS(on),Typ}$@ V_{GS}=6 V	100	mΩ
I_D	15	A

Applications

- Resonant soft switching Converters
- Switch Mode Power Supplies
- Isolated DC/DC converters



TO-220-3L top view



Absolute Maximum Ratings(T_c=25℃ unless otherwise specified)

Parameter	Symbol	Value	Unit	Test Condition
Drain-source voltage	V_{DS}	650	V	
Gate-source voltage	V_{GS}	-10 to +7	V	DC
Continuous drain current*	I_D	15	A	T_C=25°C
		12	A	T_C=100°C
Operation and storage temperature	Tj	-55 to 150	℃	
	Tstg	-55 to 150	℃	

Electrical Characteristics (T_c=25℃ unless otherwise specified)

Typical Performance - Static

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Drain source breakdown voltage	BV_{DS}	650	/	/	V	V_{GS}=0V, I_D=20μA
Total drain leakage current	I_{DSS}	/	10	20	μA	V_{DS}=650V, V_{GS}=0V, T_j=25ºC
		/	40	80	μA	V_{DS}=650V, V_{GS}=0V, T_j=150ºC
Gate-to-source current	I_{GS}	/	200	/	μA	V_{DS}=0V, V_{GS}=6V, Tj=25ºC
		/	1000	/	μA	V_{DS}=0V, V_{GS}=6V, Tj=150ºC
Static drain-source on-resistance	$R_{DS(on)}$	/	100	/	mΩ	V_{GS}=6V, I_D=5A, T_j=25ºC
		/	210	/	mΩ	V_{GS}=6V, I_D=5A, T_j=150ºC
Gate threshold voltage	$V_{G(th)}$	/	1.0	/	V	V_{DS}=V_{GS}, I_D=3.5mA,
Body diode forward voltage	V_{SD}	/	1.8	/	V	V_{GS}=0V, I_{SD}=1A,

Typical Performance - Dynamic

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Input capacitance	C_{ISS}	/	115	/	pF	V_{DS}=400V, V_{GS}=0V, f=1MHz
Output capacitance	C_{OSS}	/	42	/	pF	
Reverse transfer capacitance	C_{RSS}	/	1.3	/	pF	
Output capacitance, energy related	$C_{OSS(er)}$	/	58	/	pF	V_{DS}=0V to 400V, V_{GS}=0V
Output capacitance, time related	$C_{OSS(tr)}$	/	75	/	pF	
Total gate charge	Q_G	/	3.5	/	nC	V_{DS}=400V, V_{GS}=0V to 6V
Gate-drain charge	Q_{GD}	/	1.1	/	nC	
Gate-source charge	Q_{GS}	/	1.1	/	nC	
Gate Resistance	R_G	/	1.0	/	Ω	f = f_{res}, Open drain

Typical Performance Diagrams

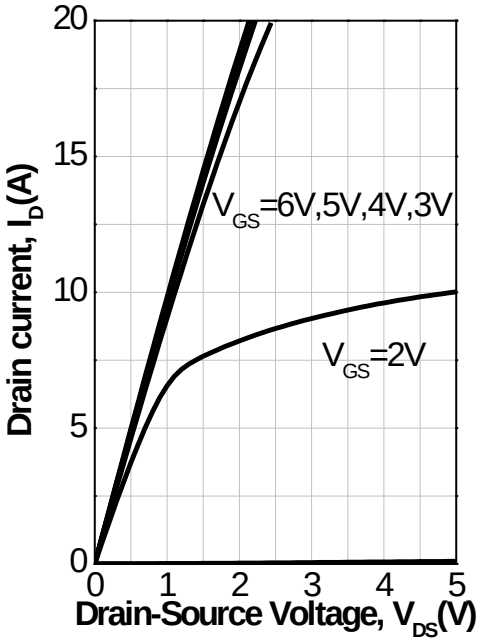


Figure 1 Typical output characteristics at T_j=25°C

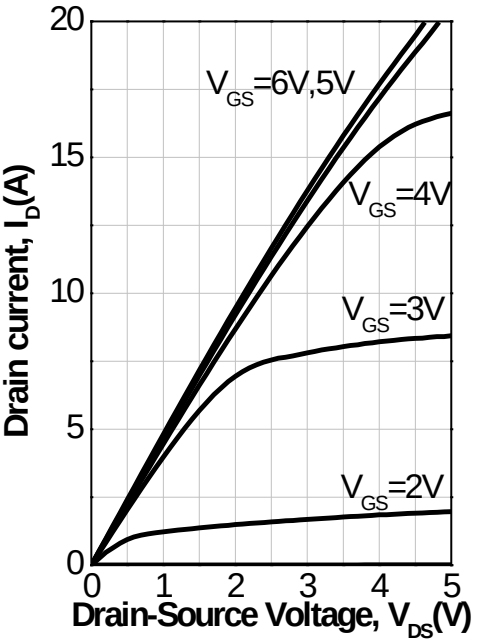


Figure 2 Typical output characteristics at T_j=150°C

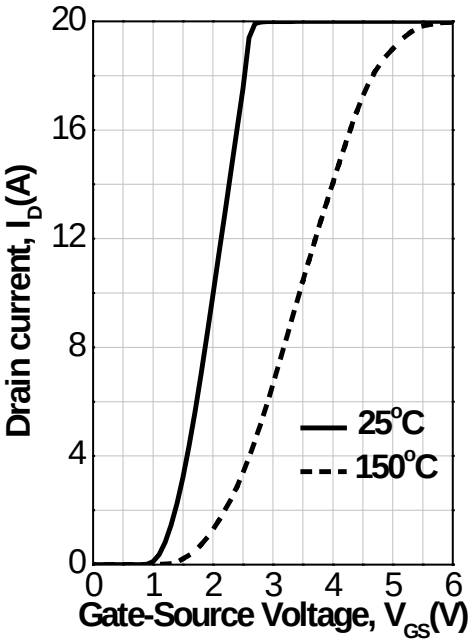


Figure 3 Typical transfer characteristics at V_{DS}=5V

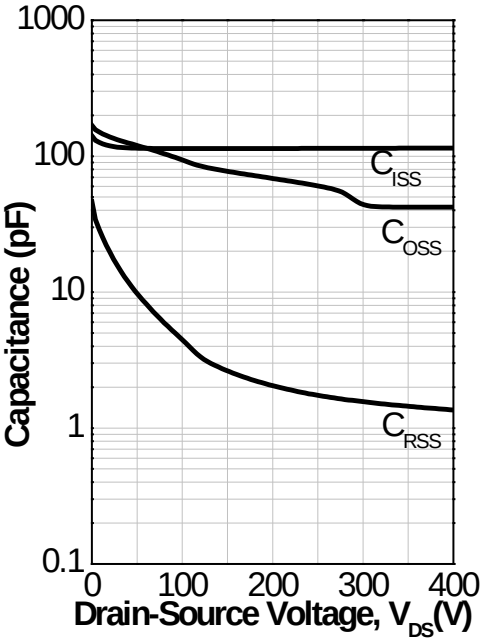


Figure 4 Typical capacitance characteristics at 1MHz

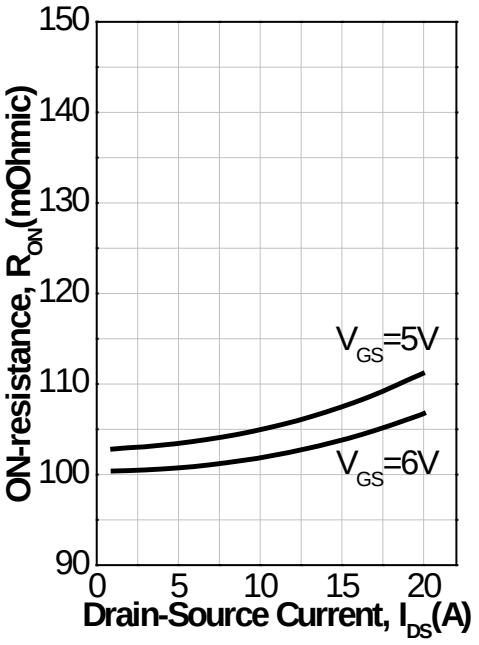


Figure 5 ON-resistance for various drain current at T_j=25ºC

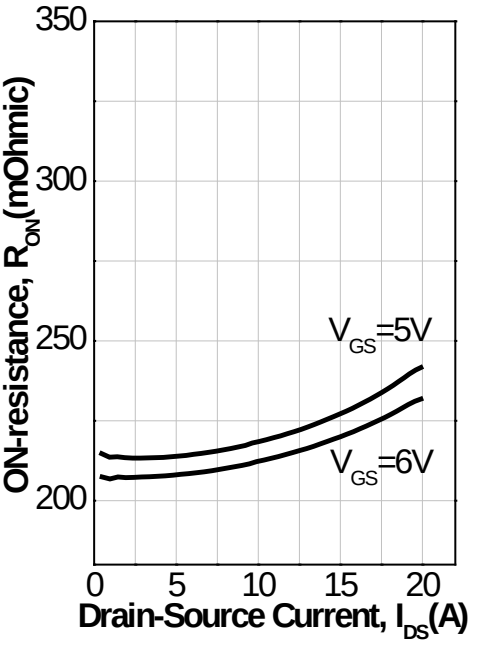


Figure 6 ON-resistance for various drain current at T_j=150ºC

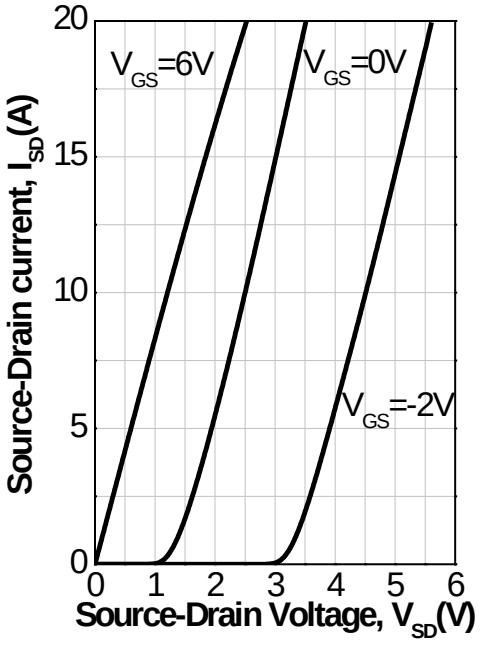


Figure 7 Typical reverse conduction characteristics

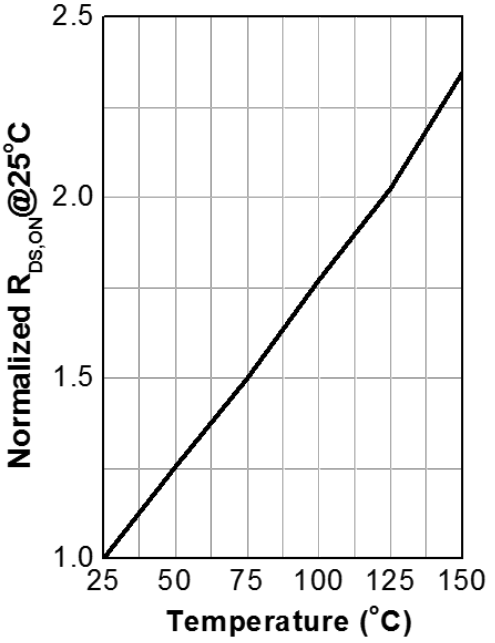
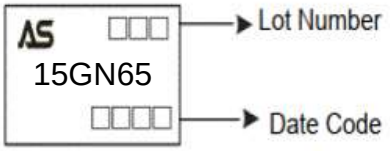


Figure 8 Normalized ON-resistance at various temperatures

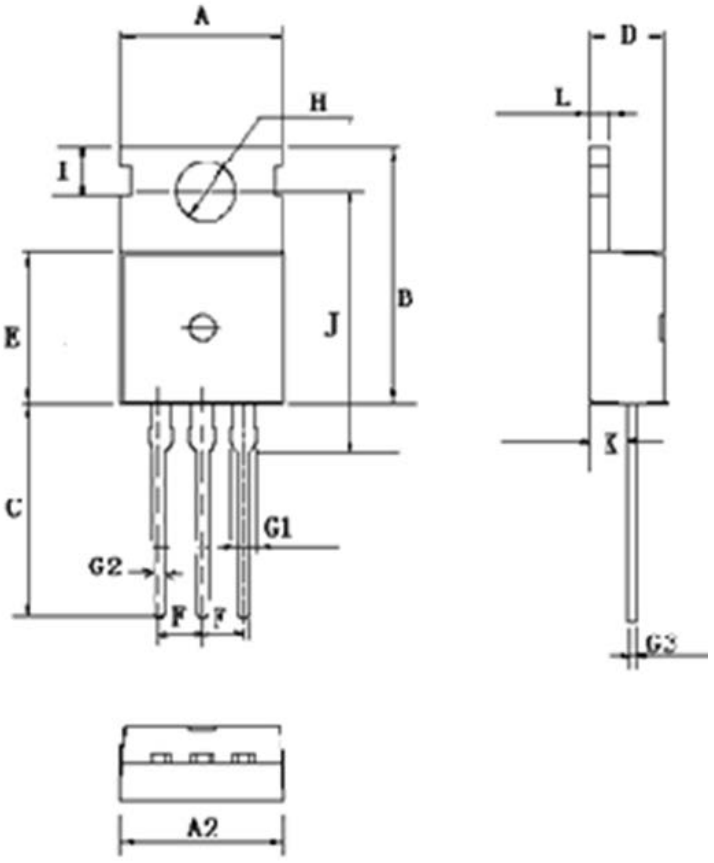
Ordering and Marking Information

Ordering Device No.	Marking	Package	Packing	Quantity
ASDM15GN65P-T	15GN65	TO-220	Tube	50/Tube

PACKAGE	MARKING
TO-220	

Outline Dimension (unit= mm)

Package TO-220-3L



SYMBOL	mm	
	MIN	MAX
A	9.66	10.28
A2	9.80	10.20
B	15.60	15.80
C	12.70	14.27
D	4.30	4.70
E	8.59	9.40
F	2.54 NOM	
G1	1.42	1.62
G2	0.70	0.95
G3	0.45	0.60
H	3.50	3.70
I	2.70	2.90
J	15.70	16.25
K	2.20	2.90
L	1.15	1.40
M	0.5	

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