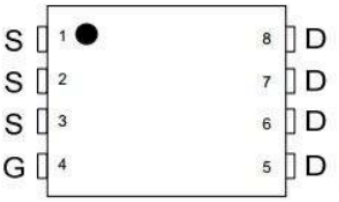
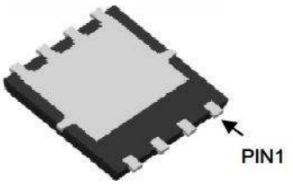
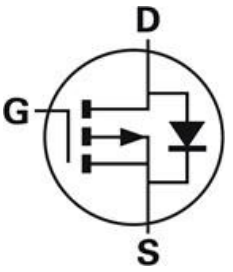
Features

- Low RDS(ON)
- High Current capability
- Reliable and Rugged
- ROHS Compliant & Halogen-Free
-

V_{DSS}	-30	V
$R_{DS(ON)-Typ}$	7.1	mΩ
I_D	-35	A







Application

- Notebook AC-in load switch
- Battery protection charge/discharge

Absolute Maximum Ratings (T_J=25°C Unless Otherwise Noted)

Symbol	Parameter		Rating	Unit
V_{DSS}	Drain-Source Voltage		-30	V
V_{GSS}	Gate-Source Voltage		±20	
T_J	Maximum Junction Temperature		150	℃
T_{STG}	Storage Temperature Range		-55 to 150	℃
I_S	Diode Continuous Forward Current		30	A
I_{DM}①	Pulse Drain Current Tested	T_C=25°C	-120	A
I_D	Continuous Drain Current	T_C=25°C	-35	A
		T_C=100℃	-19	
P_D	Maximum Power Dissipation	T_C=25°C	27	W

Thermal Characteristics

Symbol	Parameter		Rating	Unit
$R_{\theta JC}$	Thermal Resistance-Junction to Case	Steady State	4.6	°C/W
$R_{\theta JA}$③	Thermal Resistance-Junction to Ambient	Steady State	62	°C/W

Note ① : Max. current is limited by bonding wire
Note ② : UIS tested and pulse width are limited by maximum junction temperature 150°C
Note ③ : Surface Mounted on 1in^2 FR-4 board with 1oz.

Electrical Characteristics (T_J=25°C Unless Otherwise Noted)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Static Electrical Characteristics						
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0V, I_D=-250μA	-30	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=-27V, V_{GS}=0V	-	-	-1	uA
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS}, I_D=-250uA	-1	-1.8	-3	V
I_{GSS}	Gate Leakage Current	V_{GS}=±20V, V_{DS}=0V	-	-	±10	nA
$R_{DS(ON)}$ ④	Drain-Source On-state Resistance	V_{GS}=-10V, I_D=-20A	-	7.1	9	mΩ
		V_{GS}=-4.5V, I_D=-15A	-	10	16	
gfs	Forward Transconductance	V_{DS}=-10V, I_D=-8A	-	6.8	-	S
Dynamic Characteristics ⑤						
R_G	Gate Resistance	V_{GS}=0V,V_{DS}=0V, F=1MHz	-	6.6	-	Ω
C_{iss}	Input Capacitance	V_{GS}=0V, V_{DS}=-15V, Freq.=1MHz	-	1250	-	pF
C_{oss}	Output Capacitance		-	160	-	
C_{rss}	Reverse Transfer Capacitance		-	90	-	
$td_{(ON)}$	Turn-on Dela y Time	V_{DD}=-15V, I_D=-1A, V_{GS}=-4.5V, R_{GEN}=2.7Ω	-	5.8	-	nS
t_r	Turn-on Rise Time		-	18.8	-	
$t_{d(OFF)}$	Turn-off Delay Time		-	46.9	-	
t_f	Turn-off Fall Time		-	12.3	-	
Q_g	Total Gate Charge	V_{DS}=-25V, V_{GS}=-4.5V, I_D=-13A	-	32	-	nC
Q_g	Total Gate Charge	V_{DS}=-15V, V_{GS}=-4.5V, I_D=-5A	-	11	-	
Qgs	Gate-Source Charge		-	3.4	-	
Qgd	Gate-Drain Charge		-	4.2	-	
Source-Drain Characteristics						
V_{SD} ④	Diode Forward Voltage	I_S=-3A, V_{GS}=0V	-	-0.7	-1.0	V
t_{rr}	Reverse Recovery Time	I_F=-20A,V_{GS}=0, dI_F/dt=100A/us	-	9.2	-	nS
Q_{rr}	Reverse Recovery Charge		-	0.8	-	nC

Note ④：Pulse test (pulse width≤300us, duty cycle≤2%).
Note ⑤：Guaranteed by design, not subject to production testing.

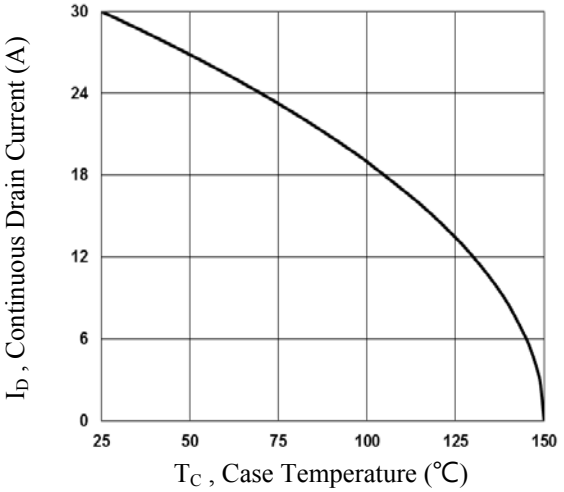


Fig.1 Continuous Drain Current vs. T_C

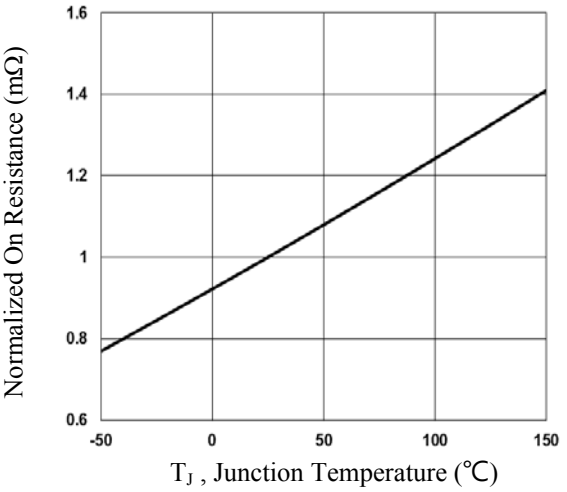


Fig.2 Normalized RDSON vs. T_J

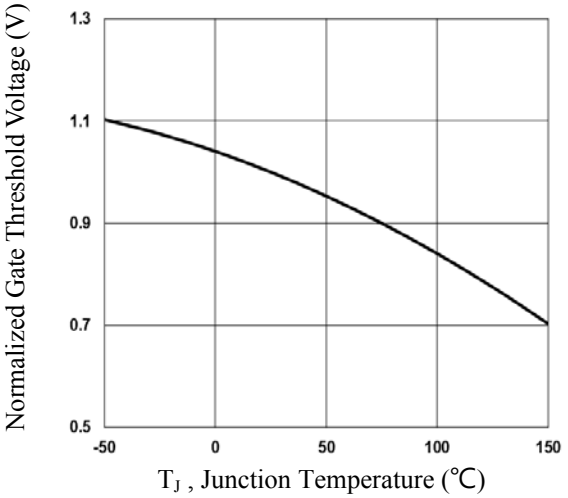


Fig.3 Normalized V_{th} vs. T_J

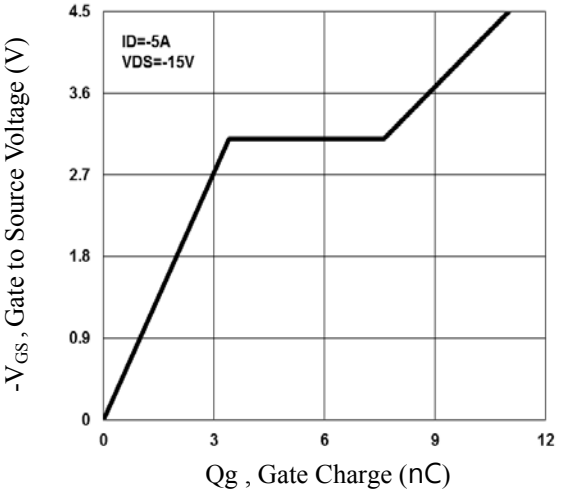


Fig.4 Gate Charge Waveform

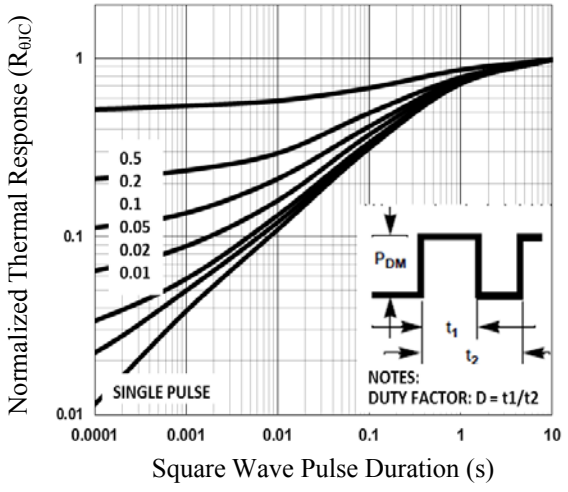


Fig.5 Normalized Transient Impedance

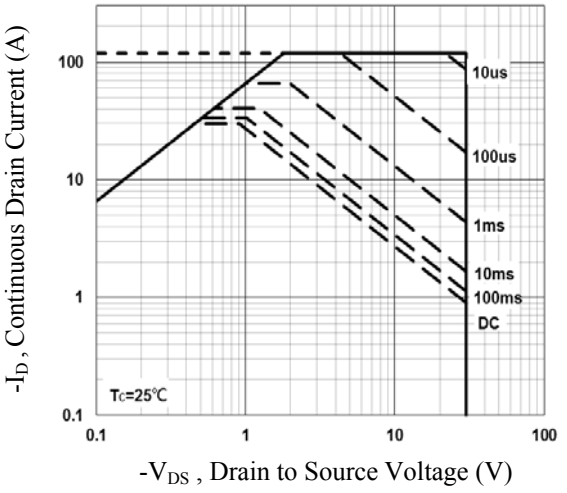


Fig.6 Maximum Safe Operation Area

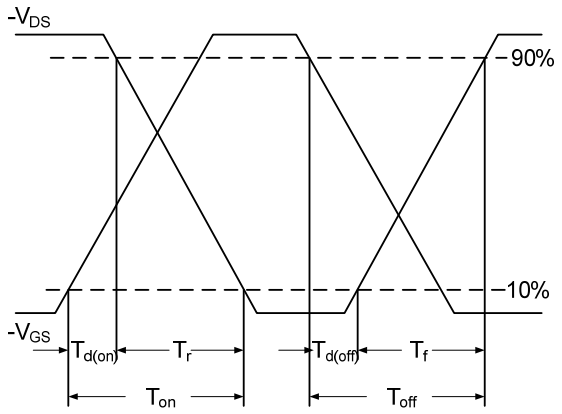


Fig.7 Switching Time Waveform

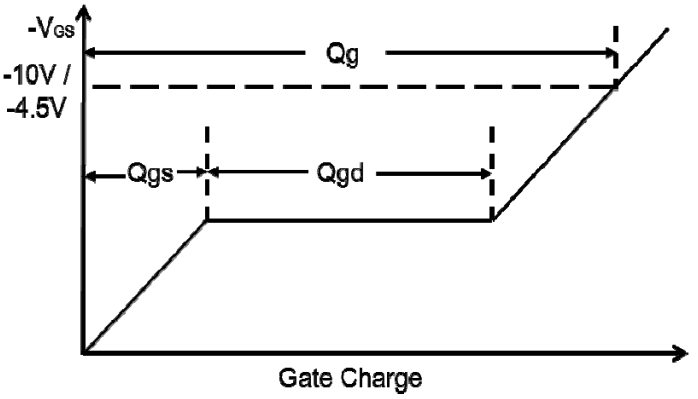
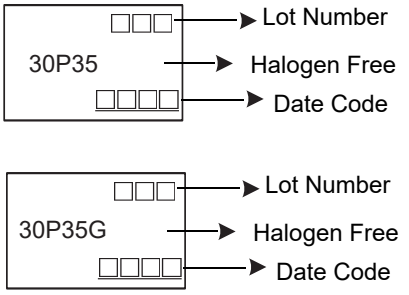


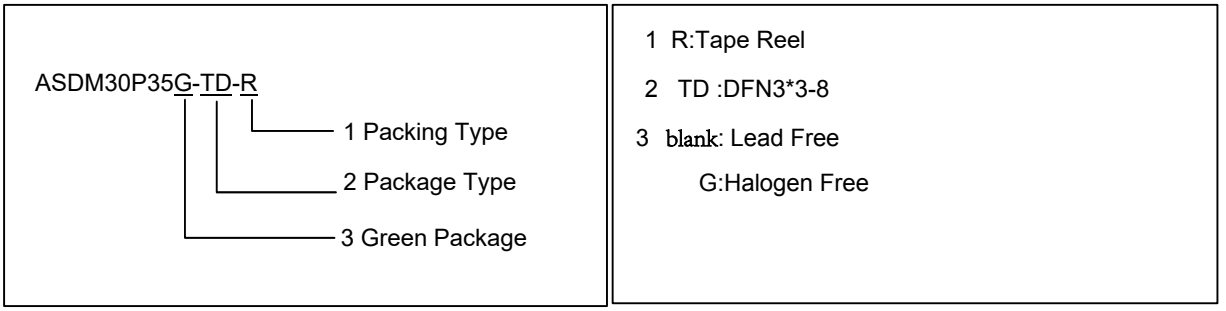
Fig.8 Gate Charge Waveform

Ordering and Marking Information

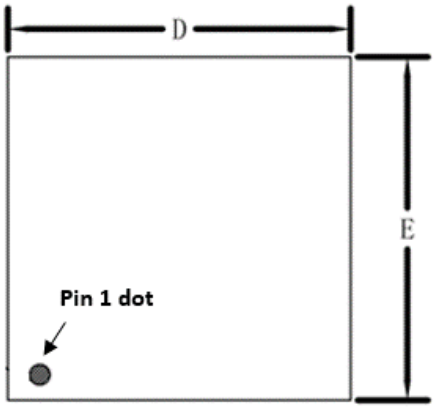
Device	Marking	Package	Packaging	Quantity
ASDM30P35	30P35	DFN3*3-8	Tape Reel	4000

PACKAGE	MARKING
DFN3*3-8	

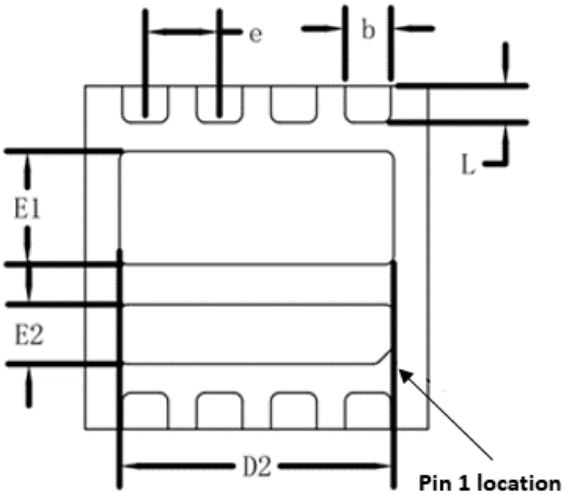
Ordering Information		Package
Lead Free	Halogen Free	
ASDM30P35-TD-R	ASDM30P35G-TD-R	DFN3*3-8



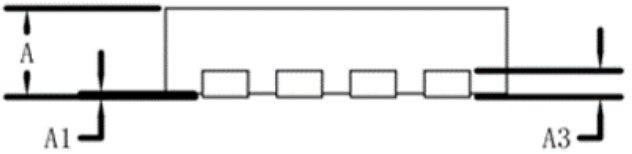
Dual DFN3*3 Package Outline Data



TOP VIEW



BOTTOM VIEW



SIDE VIEW

Symbol	Dimensions (unit: mm)		
	Min	Typ	Max
A	0.70	0.75	0.80
A1	0.00	--	0.05
A3	0.20 REF		
D	2.90	3.00	3.10
E	2.90	3.00	3.10
D2	2.30	2.40	2.50
E2	0.42	0.52	0.62
E1	0.89	0.99	1.09
b	0.35	0.40	0.45
L	0.27	0.32	0.37
e	0.65 BSC		

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