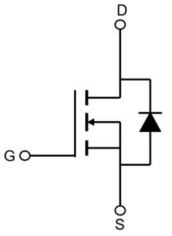
Feature

- 650V,2A
  $R_{DS(ON)}$ <5.0Ω @V_{GS}=10V TYP:4.5Ω
- Fast Switching
- Lead free product is acquired
- Excellent $R_{DS(ON)}$ and Low Gate Charge



Schematic Diagram

Marking and pin assignment

Application

- PWM applications
- Load Switch
- Power management

Package Marking and Ordering Information

Device Marking	Device	Device Package	Reel Size	Tape width	Quantity (PCS)
2N65K	AP2N65K	TO-252	13 inch	-	2500

ABSOLUTE MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	650	V
Gate-Source Voltage	V_{GS}	±30	V
Continuous Drain Current (T_a =25℃)	I_D	2	A
Continuous Drain Current (T_a =100℃)	I_D	1.25	A
Pulsed Drain Currenr (1)	I_{DM}	8	A
Singel Pulsed Avalanche Energy (2)	E_{AS}	120	mJ
Power Dissipation	P_D	40	W
Thermal Resistance from Junction to Case	$R_{\theta JC}$	2.84	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~ +150	℃

MOSFET ELECTRICAL CHARACTERISTICS(T_a=25℃ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	650	-	-	V
Zero gate voltage drain current	I_{DSS}	V_{DS} =650V, V_{GS} = 0V	-	-	1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±30V, V_{DS} = 0V	-	-	±100	nA
Gate threshold voltage(3)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	2	3.1	4	V
Drain-source on-resistance(3)	$R_{DS(on)}$	V_{GS} =10V, I_D =2A	-	4.5	5.0	Ω
Forward tranconductance(3)	g_{FS}	V_{DS} =40V, I_D =1.0A	-	1.5	-	S
Dynamic characteristics						
Input Capacitance	C_{iss}	V_{DS} =25V, V_{GS} =0V, f =1MHz	-	290	-	pF
Output Capacitance	C_{oss}		-	31	-	
Reverse Transfer Capacitance	C_{rss}		-	9	-	
Switching characteristics						
Turn-off delay time	$t_{d(off)}$	V_{DD}=325V, I_D=2A,V_{GS}=10V, R_G=25Ω	-	24	-	ns
Total Gate Charge	Qg	VDS=520V, ID=2A, VGS=10V	-	6.7	-	nC
Gate-Source Charge	Qgs		-	1.9	-	
Gate-Drain Charge	Qgd		-	1.8	-	
Source-Drain Diode characteristics						
Diode Forward voltage(3)	V_{DS}	V_{GS} =0V, I_S=2A	-	-	1.4	V
Diode Forward current(4)	I_S		-	-	2	A
Body Diode Reverse Recovery Time	trr	T_J=25°， IF=2A,di/dt=100A/us		368		ns
Body Diode Reverse Recovery Charge	Qrr	T_J=25°， IF=2A,di/dt=100A/us		1.0		uc

Notes:

1. Repetitive Rating: pulse width limited by maximum junction temperature
2. EAS Condition:T_J=25℃,V_{DD}=50V,R_G=2.0Ω,L=56mH
3. Pulse Test: pulse width≤300μs, duty cycle≤2%
4. Surface Mounted on FR4 Board,t≤10 sec

Typical Performance Characteristics

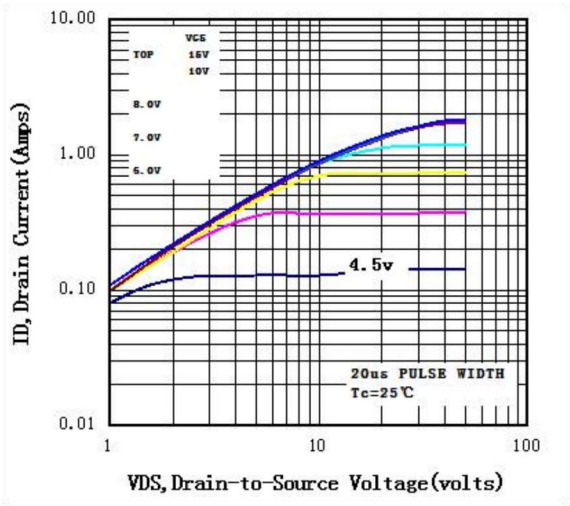


Fig1 Typical Output Characteristics, Tc=25℃

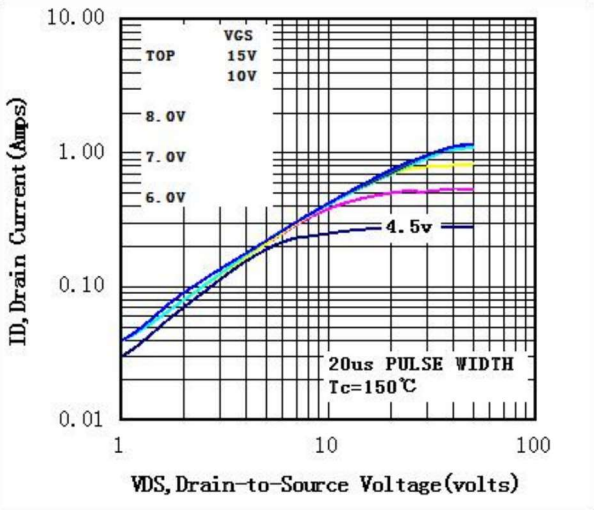


Fig2 Typical Output Characteristics, Tc=150℃

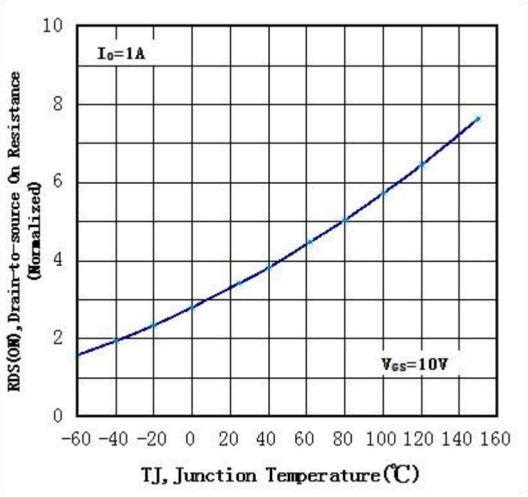


Fig3 Normalized On-Resistance Vs.Temperature

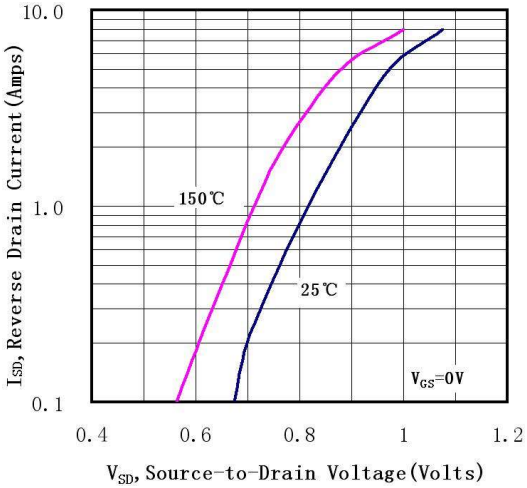


Fig4 Typical Source-Drain Diode Forward Voltage

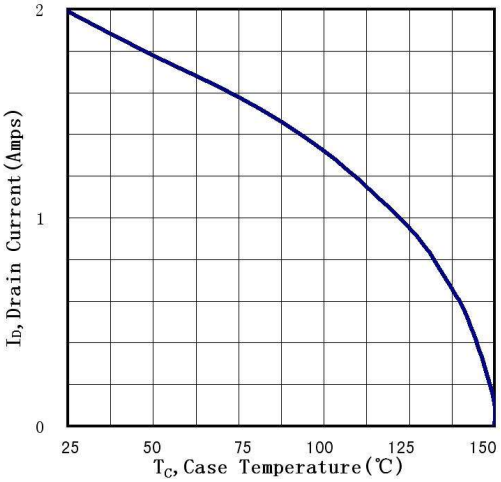


Fig5 Maximum Drain Current Vs.Case Temperature

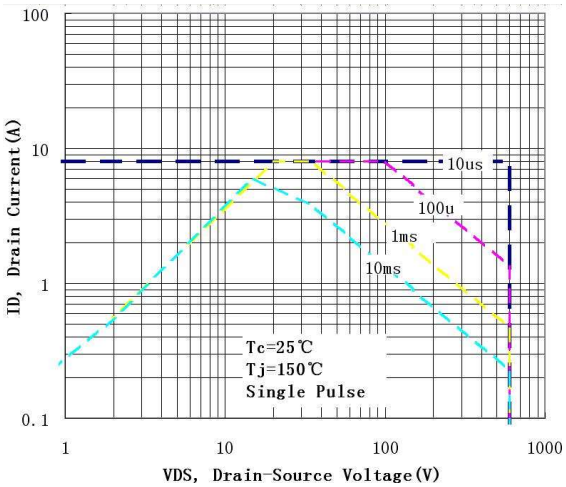
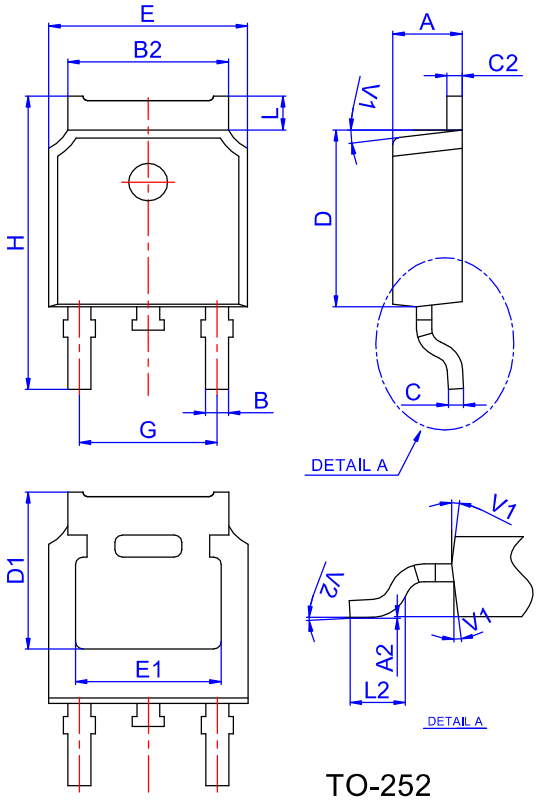


Fig6 Maximum Safe Operating Area

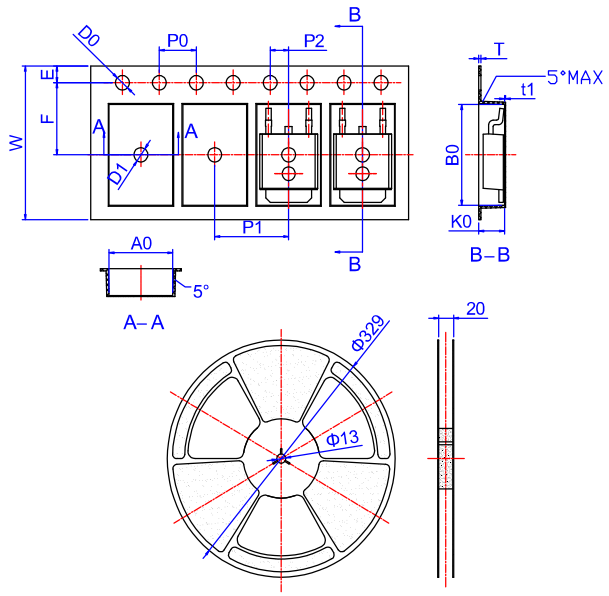
TO-252 Package Information



TO-252

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.10		2.50	0.083		0.098
A2	0		0.10	0		0.004
B	0.66		0.86	0.026		0.034
B2	5.18		5.48	0.202		0.216
C	0.40		0.60	0.016		0.024
C2	0.44		0.58	0.017		0.023
D	5.90		6.30	0.232		0.248
D1	5.30REF			0.209REF		
E	6.40		6.80	0.252		0.268
E1	4.63			0.182		
G	4.47		4.67	0.176		0.184
H	9.50		10.70	0.374		0.421
L	1.09		1.21	0.043		0.048
L2	1.35		1.65	0.053		0.065
V1		7°			7°	
V2	0°		6°	0°		6°

Reel Specification-TO-252



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
W	15.90	16.00	16.10	0.626	0.630	0.634
E	1.65	1.75	1.85	0.065	0.069	0.073
F	7.40	7.50	7.60	0.291	0.295	0.299
D0	1.40	1.50	1.60	0.055	0.059	0.063
D1	1.40	1.50	1.60	0.055	0.059	0.063
P0	3.90	4.00	4.10	0.154	0.157	0.161
P1	7.90	8.00	8.10	0.311	0.315	0.319
P2	1.90	2.00	2.10	0.075	0.079	0.083
A0	6.85	6.90	7.00	0.270	0.271	0.276
B0	10.45	10.50	10.60	0.411	0.413	0.417
K0	2.68	2.78	2.88	0.105	0.109	0.113
T	0.24		0.27	0.009		0.011
t1	0.10			0.004		
10P0	39.80	40.00	40.20	1.567	1.575	1.583

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

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

Click to view products by Quan Li ***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 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 DMN12M3UCA6-7 PJMF280N65E1_T0_00201 PJMF380N65E1_T0_00201 PJMF280N60E1_T0_00201 PJMF600N65E1_T0_00201 PJMF900N65E1_T0_00201 PJMF900N60E1_T0_00201