Features

- Reliable and Rugged
- ROHS Compliant & Halogen-Free
- ESD Protection ESD>2K

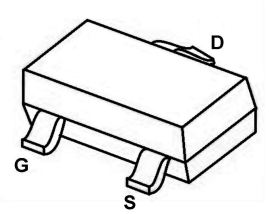
Application

- Direct Logic-Level Interface: TTL/CMOS
- Battery Operated Systems
- Solid-State Relays

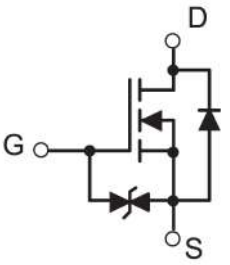
Product Summary

RoHS

V_{DSS}	60	V
$R_{DS(on),Typ}$@ V_{GS}=10 V	1.6	Ω
I_D	0.3	A



SOT-23



Absolute maximum ratings (Ta=25℃ unless otherwise noted)

Symbol	Parameter		Rating	Unit
V_{DSS}	Drain-Source Voltage		60	V
V_{GSS}	Gate-Source Voltage		±20	
T_J	Maximum Junction Temperature		150	°C
T_{STG}	Storage Temperature Range		-55 to 150	°C
I_S	Diode Continuous Forward Current		0.3	A
I_{DM} ①	Pulse Drain Current Tested	T_A=25°C	1.2	A
I_D	Continuous Drain Current	T_A=25°C	0.3	A
		T_A=70°C	0.25	
P_D	Maximum Power Dissipation	T_A=25°C	0.36	W
		T_A=70°C	0.23	

Thermal Characteristics

Symbol	Parameter		Rating	Unit
$R_{\theta JA}$ ②	Thermal Resistance-Junction to Ambient	Steady State	350	°C/W

Note ① : Max. current is limited by junction temperature.
Note ② : Surface Mounted on 1in^2 FR-4 board with 1oz.

Electrical characteristics (T_A=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	60	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=60V, V_{GS}=0V	-	-	1	uA
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS}, I_D=250uA	1.0	1.5	2.5	V
I_{GSS}	Gate Leakage Current	V_{GS}=±20V, V_{DS}=0V	-	-	±10	uA
$R_{DS(ON)}$ ③	Drain-Source On-state Resistance	V_{GS}=10V, I_D=0.3A	-	1.6	2.5	Ω
		V_{GS}=4.5V, I_D=0.2A	-	1.9	3.0	
gfs	Forward Transconductance	V_{DS}=10V, I_D=0.2A	-	0.45	-	S
Dynamic Characteristics ④						
C_{iss}	Input Capacitance	V_{GS}=0V, V_{DS}=30V, Freq.=1MHz	-	26.2	-	pF
C_{oss}	Output Capacitance		-	2.7	-	
C_{rss}	Reverse Transfer Capacitance		-	1.7	-	
$td_{(ON)}$	Turn-on Dela y Time	V_{DD}=30V, I_D=0.3A, V_{GS}=10V, R_{GEN}=10Ω	-	1.0	-	nS
t_r	Turn-on Rise Time		-	19.4	-	
$t_{d(OFF)}$	Turn-off Delay Time		-	23.2	-	
t_f	Turn-off Fall Time		-	21	-	
Q_g	Total Gate Charge	V_{DS}=30V, V_{GS}=4.5V, I_D=1A	-	0.9	-	nC
Q_g	Total Gate Charge	V_{DS}=30V, V_{GS}=10V, I_D=1A	-	1.7	-	
Qgs	Gate-Source Charge		-	0.4	-	
Qgd	Gate-Drain Charge		-	0.3	-	
Source-Drain Characteristics						
V_{SD}③	Diode Forward Voltage	I_S=0.1A, V_{GS}=0V	0.4	0.8	1.1	V
t_{rr}	Reverse Recovery Time	I_F=0.1A,V_{GS}=0, dI_F/dt=100A/us	-	7.4	-	nS
Q_{rr}	Reverse Recovery Charge		-	2.3	-	nC

Note ③：Pulse test (pulse width≤300us, duty cycle≤2%).
Note ④：Guaranteed by design, not subject to production testing.

Typical Characteristics

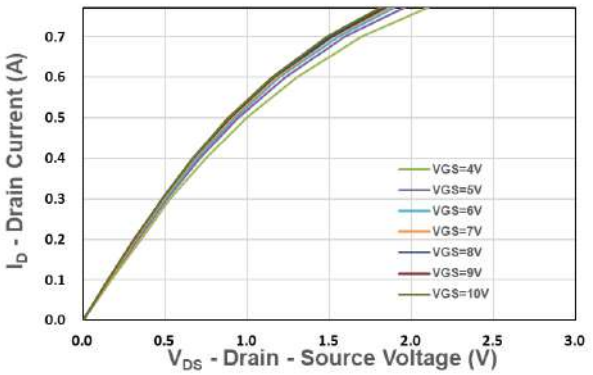


Figure 1. Output Characteristics

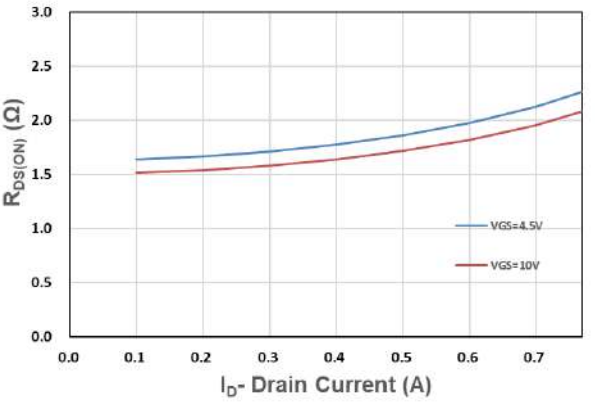


Figure 2. On−Resistance vs. I_D

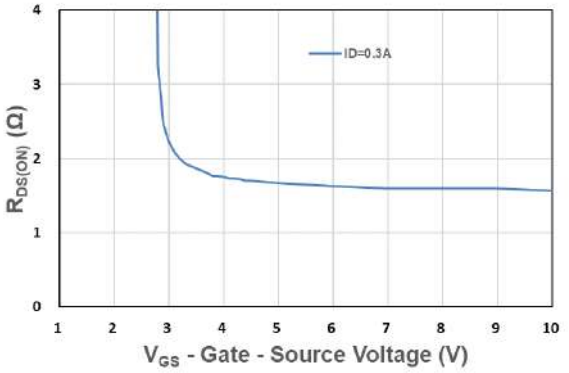


Figure 3. On−Resistance vs. V_{GS}

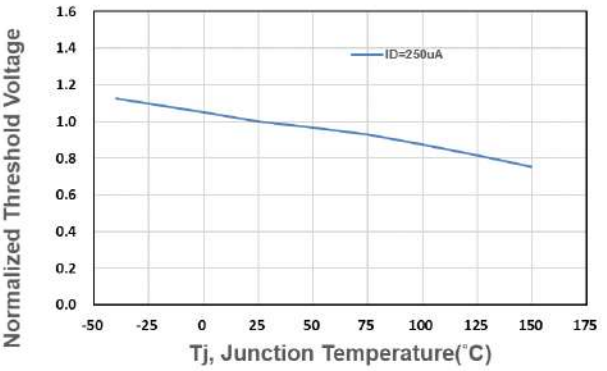


Figure 4. Gate Threshold Voltage

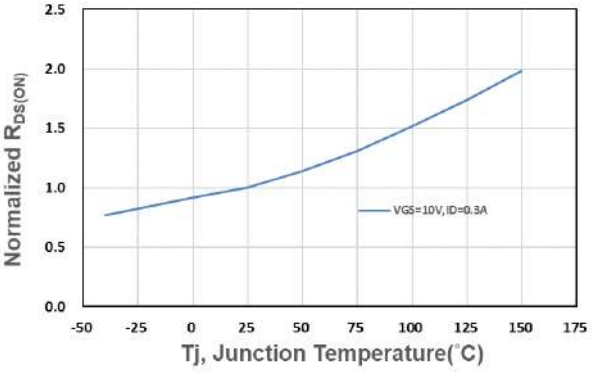


Figure 5. Drain-Source On Resistance

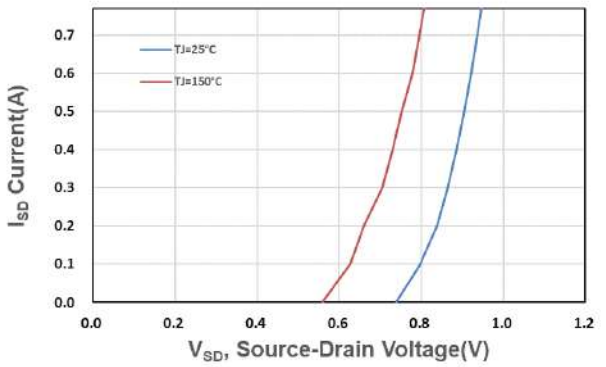


Figure 6. Source-Drain Diode Forward

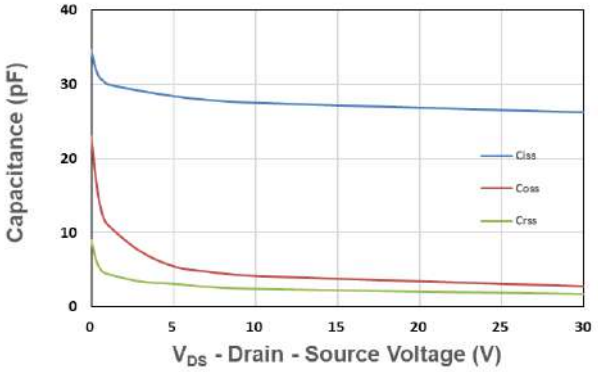


Figure 7. Capacitance

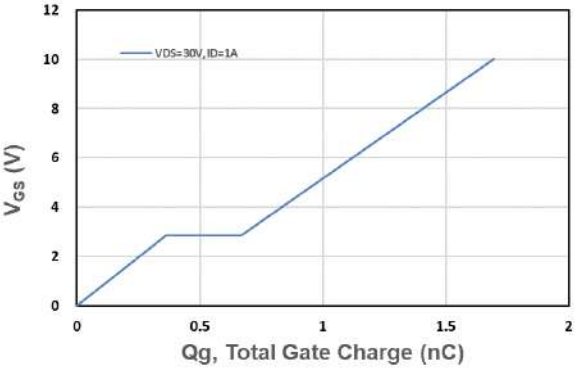


Figure 8. Gate Charge Characteristics

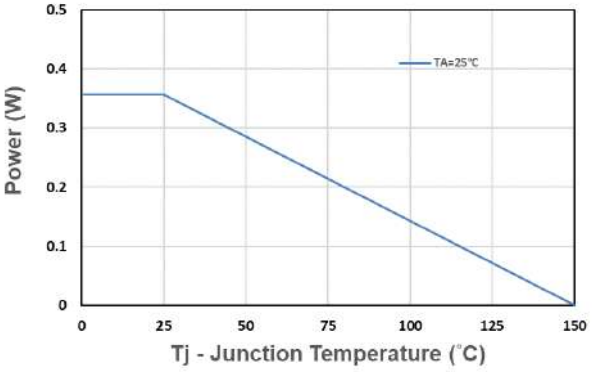


Figure 9. Power Dissipation

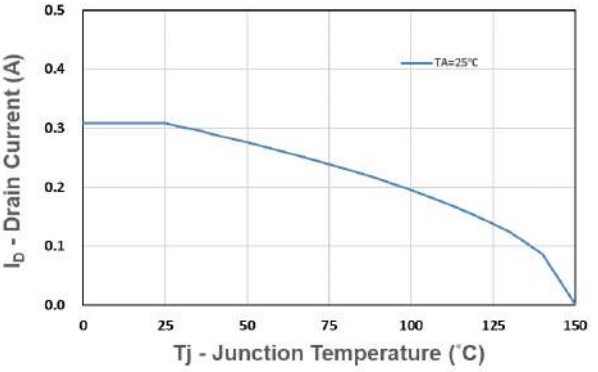


Figure 10. Drain Current

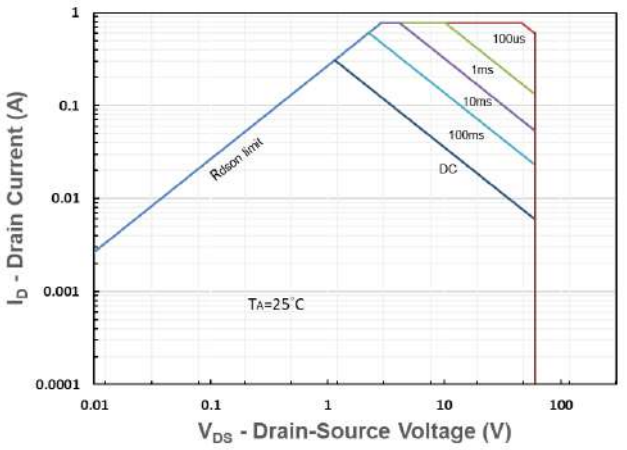


Figure 11. Safe Operating Area

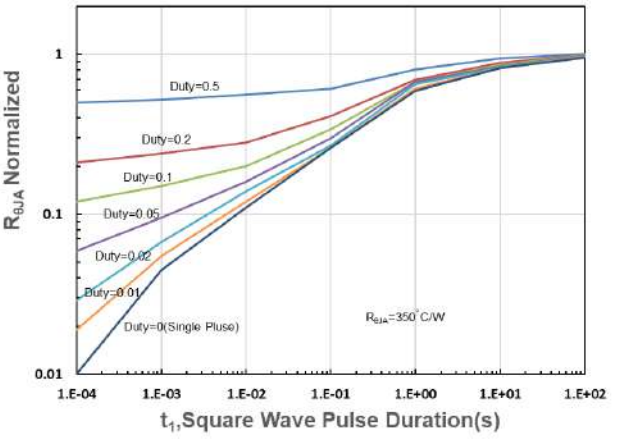
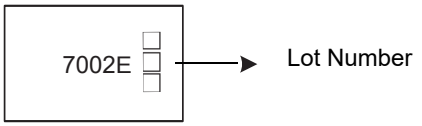


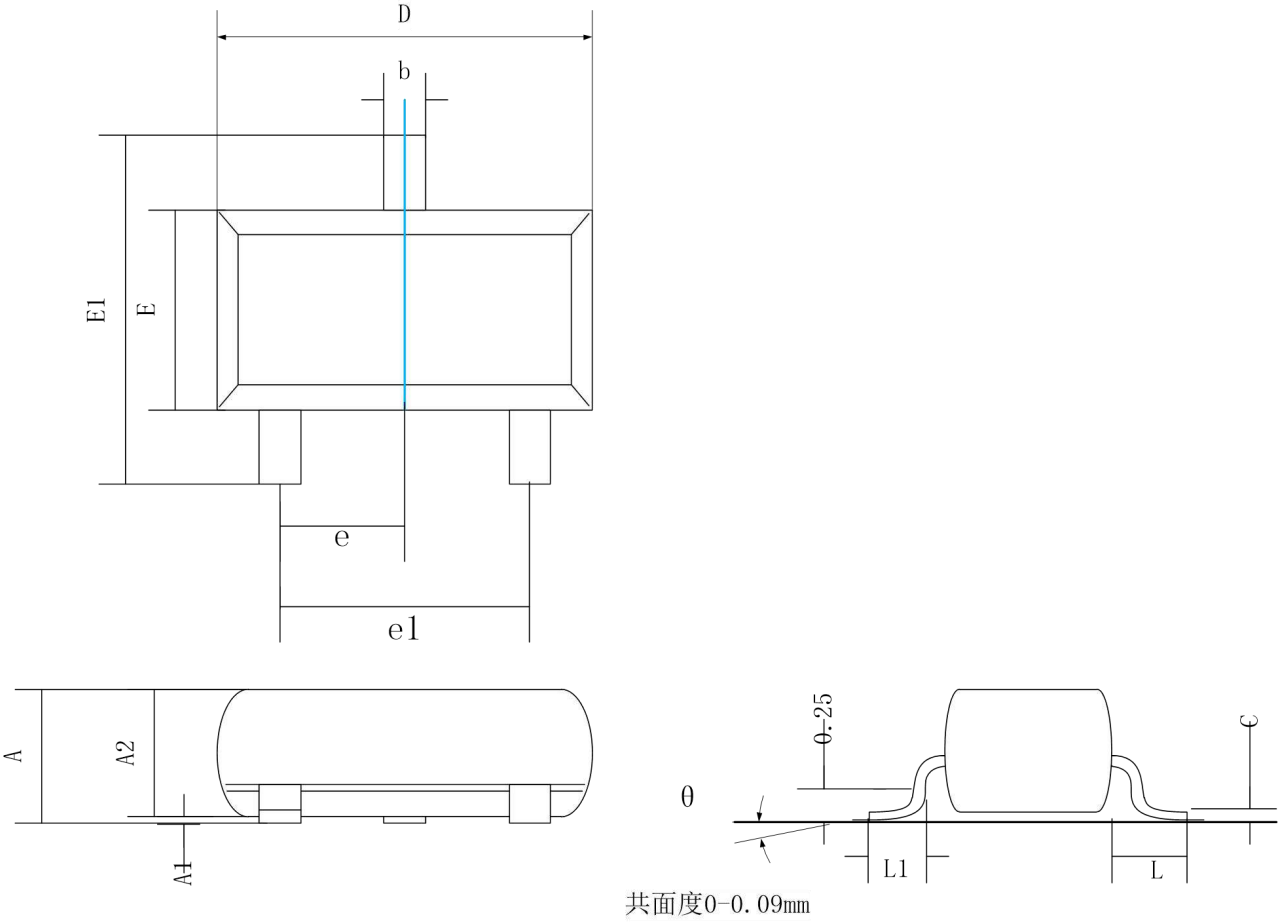
Figure 12. $R_{\theta JA}$ Transient Thermal Impedance

Ordering and Marking Information

Ordering Device No.	Marking	Package	Packing	Quantity
ASDM7002EZA-R	7002E	SOT-23	Tape&Reel	3000/Reel

PACKAGE	MARKING
SOT-23	

SOT-23 Package Information



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.90	1.15
A1	0.00	0.10
A2	0.90	1.05
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E	1.20	1.40
E1	2.25	2.55
e	0.95 REF.	
e1	1.80	2.00
L	0.55 REF.	
L1	0.30	0.50
θ	0°	8°

IMPORTANT NOTICE

Xi'an Ascend Semiconductor incorporated MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARDS TO THIS DOCUMENT, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION).

Xi'an Ascend Semiconductor Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to this document and any product described herein. Xi'an Ascend Semiconductor Incorporated does not assume any liability arising out of the application or use of this document or any product described herein; neither does Xi'an Ascend Semiconductor Incorporated convey any license under its patent or trademark rights, nor the rights of others. Any Customer or user of this document or products described herein in such applications shall assume .

all risks of such use and will agree to hold Ascendsemi Incorporated and all the companies whose products are represented on Xi'an Ascend Semiconductor Incorporated website, harmless against all damages.

Xi'an Ascend Semiconductor Incorporated does not warrant or accept any liability whatsoever in respect of any products purchased through unauthorized sales channel. Should Customers purchase or use Xi'an Ascend Semiconductor Incorporated products for any unintended or unauthorized application, Customers shall indemnify and hold Xi'an Ascend Semiconductor Incorporated and its representatives harmless against all claims, damages, expenses, and attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized application.

www.ascendsemi.com

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

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

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

Other Similar products are found below :

614233C 648584F IRFD120 IRFF430 JANTX2N5237 2N7000 FCA20N60_F109 FDZ595PZ AOD464 2SK2267(Q) 2SK2545(Q,T) 405094E 423220D MIC4420CM-TR VN1206L 614234A 715780A SSM6J414TU,LF(T 751625C PSMN4R2-30MLD TK31J60W5,S1VQ(O 2SK2614(TE16L1,Q) DMN1017UCP3-7 EFC2J004NUZTDG FCAB21350L1 P85W28HP2F-7071 DMN1053UCP4-7 NTE2384 NTE2969 NTE6400A DMN2080UCB4-7 DMN61D9UWQ-13 US6M2GTR DMN31D5UDJ-7 SSM6P54TU,LF DMP22D4UFO-7B IPS60R3K4CEAKMA1 DMN1006UCA6-7 DMN16M9UCA6-7 STF5N65M6 STU5N65M6 C3M0021120D DMN13M9UCA6-7 BSS340NWH6327XTSA1 MCM3400A-TP DMTH10H4M6SPS-13 IRF40SC240ARMA1 IPS60R1K0PFD7SAKMA1 IPS60R360PFD7SAKMA1 IPS60R600PFD7SAKMA1