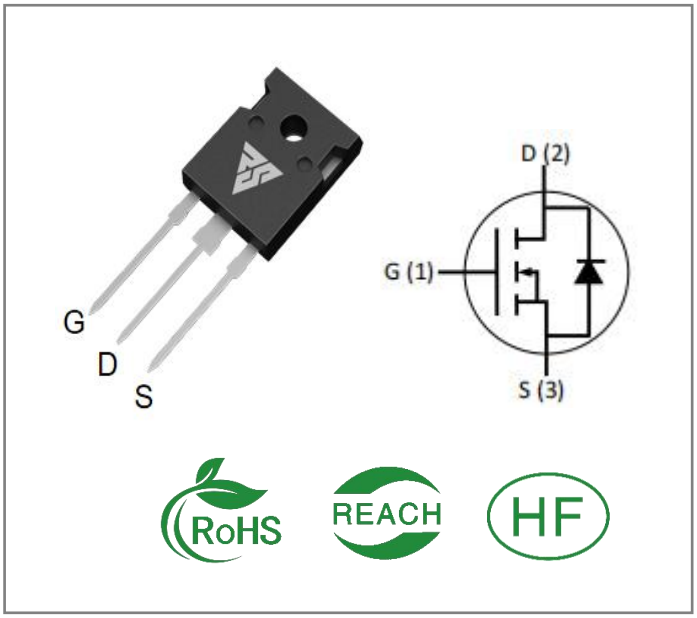
VDS	RDS(on) Max	ID@25℃
1700V	750mΩ	5A



Applications:

- Solar Inverters
- Switch Mode Power Supplies
- High Voltage DC/DC Converters
- Battery Chargers
- Motor Drives

Features:

- High Blocking Voltage with Low On-Resistance
- High Speed Switching with Low Capacitances
- Easy to Parallel and Simple to Drive
- Avalanche Ruggedness
- Halogen Free, RoHS Compliant

Benefits:

- Higher System Efficiency
- Reduced Cooling Requirements
- Increased Power Density
- Increased System Switching Frequency

Ordering Information

Part Number	Package	Marking	Packing	Qty.
RSM1701K0W	TO-247-3	RSM1701K0W	Tube	30 PCS

Maximum Ratings (TJ= 25℃ unless otherwise specified)

Symbol	Parameter	Value	Unit	Test Conditions	Note
VDSmax	Drain - Source Voltage	1700	V	VGS=0V,ID =100μA	
VGSmax	Gate - Source Voltage	-10/+25	V	Absolute maximum values	
VGSop	Gate - Source Voltage	-5/+20	V	Recommended operational values	
ID	Continuous Drain Current	5.0 3.5	A	VGS=20V, TC =25℃ VGS=20V, TC =100℃	
PD	Power Dissipation	62	W	TC =25℃, TJ =150℃	
TL	Solder Temperature	260	℃		
TJ, Tstg	Operating Junction and StorageTemperature	-55 to +150	℃		

Electrical Characteristics （TJ= 25℃ unless otherwise specified）

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Conditions	Note
V(BR)DSS	Drain-Source Breakdown Voltage	1700			V	VGS=0V,ID =100μA	
VGS(th)	Gate Threshold Voltage	2.0	2.65	4.0	V	VGS= VDS, IDS=5mA TC =25℃	
			1.75		V	VGS= VDS, IDS=5mA TC =150℃	
IDSS	Zero Gate Voltage Drain Current		1	100	μA	VDS= 1200V, VGS=0V	
IGSS	Gate-Source Leakage Current		20	200	nA	VGS=20V, VDS= 0V	
RDS(on)	Drain-Source on-state Resistance		650	750	mΩ	VGS=20V, ID =2A, TC =25℃	
			950			VGS=20V, ID =2A, TC =150℃	
Ciss	Input Capacitance		380		pF	VGS=0V, VDS=1000V f=1MHz，VAC=25 mV	
Coss	Output Capacitance		14				
Crss	Reverse Transfer Capacitance		3.2				
EON	Turn-On Switching Energy		37		μJ	VDS =1200V, VGS=-5/20V ID = 2A,RG(ext) = 2.5Ω L= 1478μH	
EOFF	Turn-Off Energy		15				
td(on)	Turn-On Delay Time		6.0		ns	VDS =1200V VGS =-5/20 V ID = 2A RG(ext) =2. 5 Ω RL =600Ω Timing relative to VDS	
tr	Rise Time		9.5				
td(off)	Turn-Off Delay Time		14.2				
tf	Fall Time		23				
RG(int)	Internal Gate Resistance		20		Ω	f=1 MHz, VAC=25mV	
Qgs	Gate to Source Charge		4.8		nC	VDS=800V, VGS=-5/20V ID =2A	
Qgd	Gate to Drain Charge		5.6				
Qg	Total Gate Charge		13				
Gfs	Transconductanc		1.2		S	VGS=20V, ID =2A, TC =25℃	
			1.0			VGS=20V, ID =2A, TC =150℃	

Reverse Diode Characteristics (TJ= 25℃ unless otherwise specified)

Symbol	Parameter	Typ.	Max	Unit	Test Conditions	Note
VSD	Diode Forward Voltage	3.5		V	VGS=-5V, ISD = 1 A, TJ = 25℃	
		3.3		V	VGS=-5V, ISD= 1 A, TJ= 150℃	
IS	Continuous Diode Forward Current		4	A	TC= 25℃	
trr	Reverse Recovery time	22		ns	VGS=-5V ISD= 2 A VR = 1200V dif/dt=1200A/μs	
Qrr	Reverse Recovery Charge	31		nC		
Irrm	Peak Reverse Recovery Current	3.5		A		

Thermal Characteristics (TJ= 25℃ unless otherwise specified)

Symbol	Parameter	Typ.	Unit	Test Conditions	Note
RθJC	Thermal Resistance from Junction to Case	1.8	℃/W		
RθJA	Thermal Resistance From Junction to Ambient	40			

Typical Feature Curve

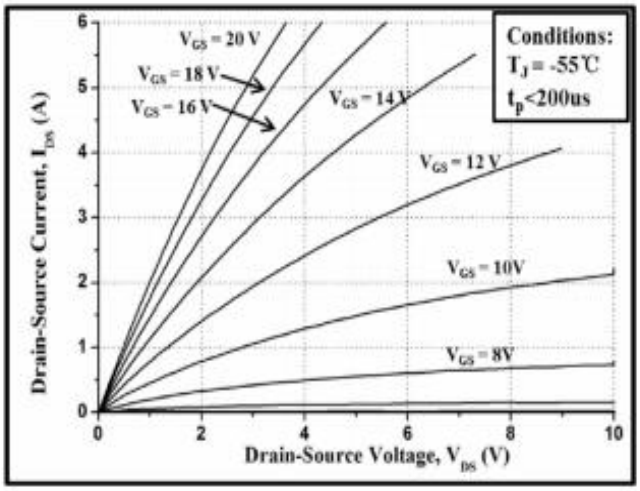


Figure 1. Output Characteristics T_J = -55 ℃

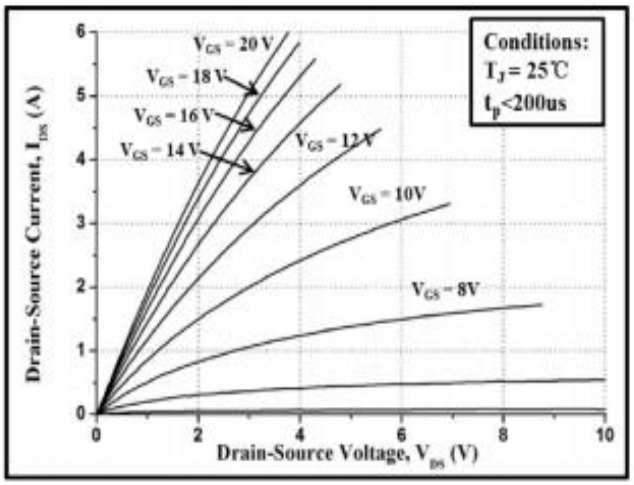


Figure 2. Output Characteristics T_J = 25 ℃

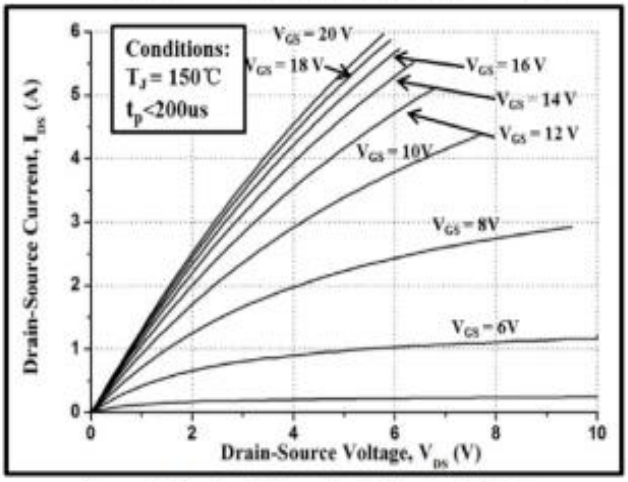


Figure 3. Output Characteristics T_J =150 ℃

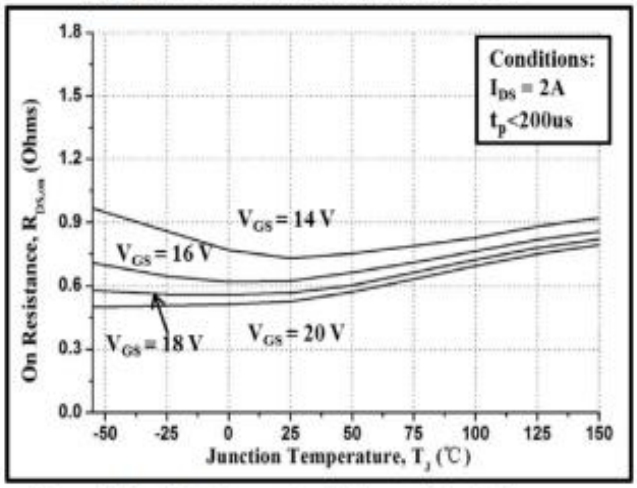


Figure 4. On-Resistance For Various Gate Voltage

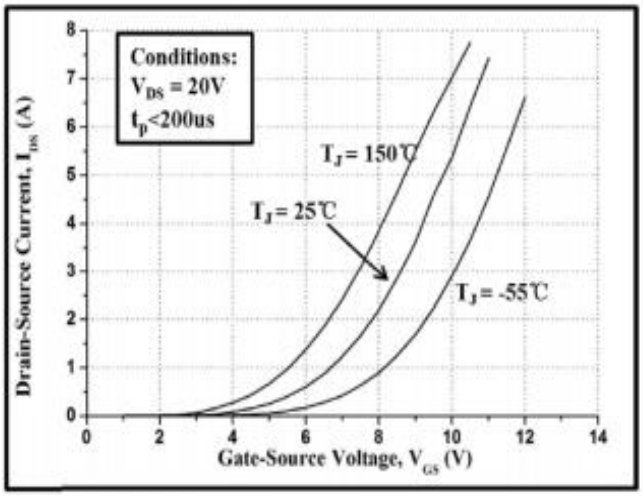


Figure 5. Transfer Characteristic for Various Junction Temperatures

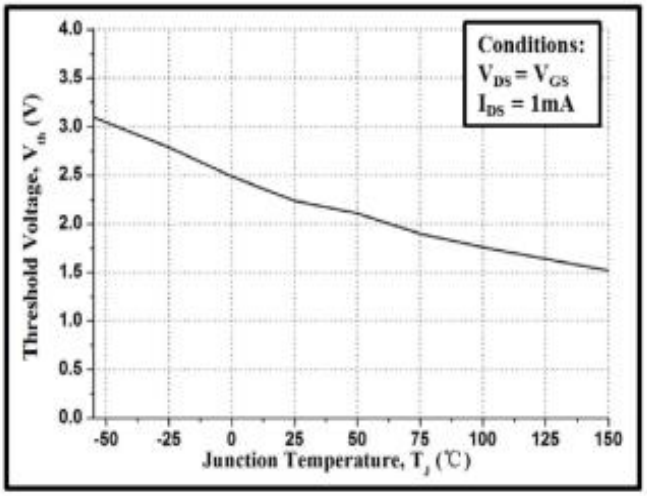


Figure 6. Threshold Voltage vs. Temperature

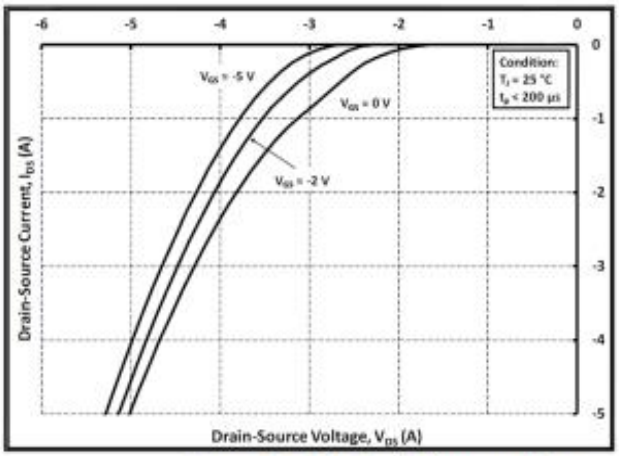


Figure 7. Body Diode Characteristics

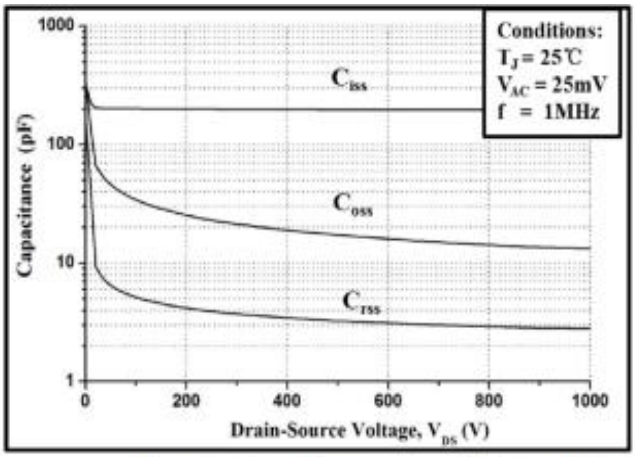


Figure 8. Capacitances vs. Drain-Source Voltage

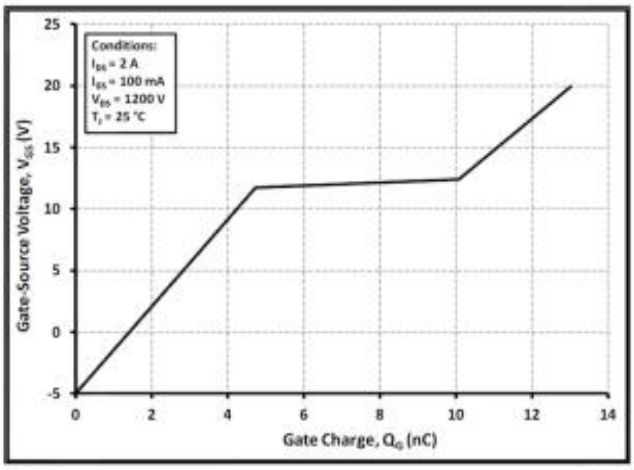


Figure 9. Gate Charge Characteristics

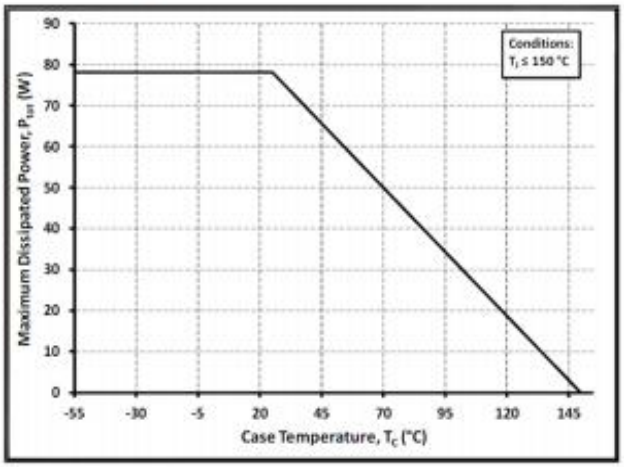


Figure 10. Power Dissipation Derating

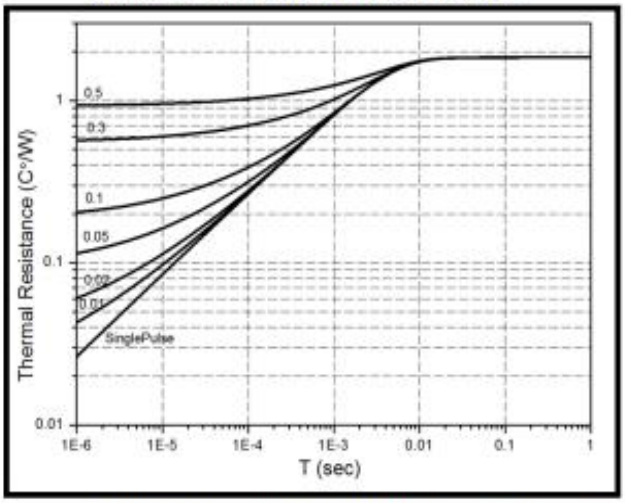
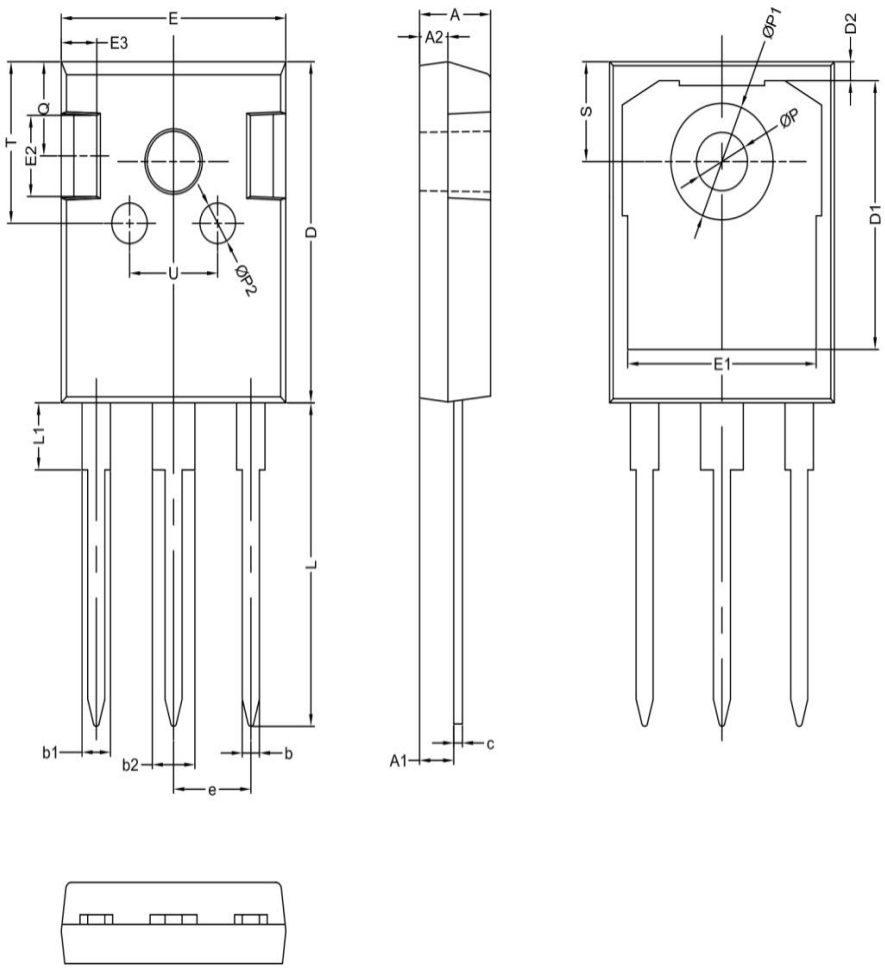


Figure 11. Transient Thermal Impendance

Package outline drawing(TO-247-3 Unit: mm)



符号	机械尺寸/mm		
	最小值	典型值	最大值
A	4.80	5.00	5.20
A1	2.21	2.41	2.61
A2	1.90	2.00	2.10
b	1.10	1.20	1.35
b1		2.00	
b2		3.00	
c	0.55	0.60	0.75
D	20.80	21.00	21.20
D1		16.55	
D2		1.20	
E	15.60	15.80	16.0
E1		13.30	
E2		5.00	
E3		2.50	
e		5.44	
L	19.42	19.92	20.42
L1		4.13	
P	3.50	3.60	3.70
P1	-	-	7.40
P2		2.50	
Q		5.80	
S	6.05	6.15	6.25
T		10.00	
U		6.20	

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