

GSM7002KJZF

60V N-Channel Enhancement Mode MOSFET

Product Description

GSM7002KJZF, N-Channel enhancement mode MOSFET, uses Advanced Trench Technology to provide excellent $R_{DS(ON)}$, low gate charge.

These devices are particularly suited for low voltage power management, such as smart phone and notebook computer and other battery powered circuits, and low in-line power loss are needed in commercial industrial surface mount applications.

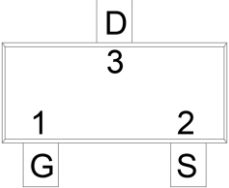
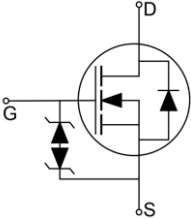
Features

- 60V/0.3A , $R_{DS(ON)}=3.0\Omega@V_{GS}=10V$
- 60V/0.2A , $R_{DS(ON)}=4.0\Omega@V_{GS}=4.5V$
- Super high density cell design for extremely low $R_{DS(ON)}$
- Exceptional on-resistance and maximum DC current capability
- ESD Protection (2KV) Diode design-in
- SOT-23 package design

Applications

- Drivers : Relays, Solenoids, Lamps, Hammers, Display, Memories, Transistors, etc.
- High saturation current capability.
Direct Logic-Level Interface: TTL/CMOS
- Battery Operated Systems
- Solid-State Relays

Packages & Pin Assignments

SOT-23			Equivalent Circuit		
					
Pin	Symbol	Description	Pin	Symbol	Description
1	G	Gate	3	D	Drain
2	S	Source			

Ordering and Marking Information

Ordering Information			
Part Number	Package	Part Marking	Quantity / Reel
GSM7002KJZF	SOT-23	e□□□□	3,000 PCS
GSM7002K 1 2 - Product Code: GSM7002K - Package Code: 1 is JZ for SOT-23 - Green Level: 2 is F for RoHS Compliant and Halogen Free			
Marking Information			
<div style="border: 1px solid black; padding: 5px; display: inline-block; margin-right: 20px;">e□□□□</div> - Product Code: e - GS Code: □□□□			

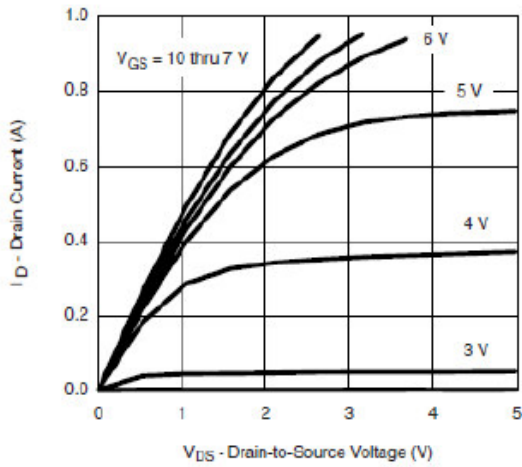
Absolute Maximum Ratings (T_A=25°C Unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{DSS}	Drain-Source Voltage	60	V
V _{GSS}	Gate-Source Voltage - Continuous	±20	V
I _D	Continuous Drain Current	T _A =25°C	0.30
		T _A =70°C	0.21
I _{DM}	Pulsed Drain Current	0.65	A
I _S	Continuous Source Current (Diode Conduction)	0.45	A
P _D	Power Dissipation	T _A =25°C	0.35
		T _A =70°C	0.225
T _J	Operating Junction Temperature	-55 to 150	°C
T _{STG}	Storage Temperature Range	-55 to 150	°C
R _{θJA}	Thermal Resistance-Junction to Ambient	357	°C/W

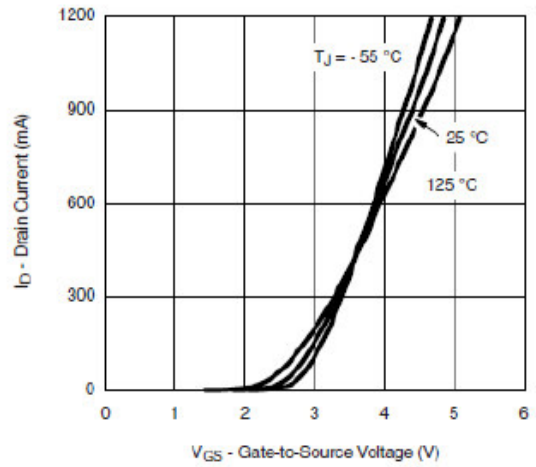
Electrical Characteristics (T_A=25°C unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
Static characteristics						
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250uA	60			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250uA	1.0		2.0	
I _{GSS}	Gate Leakage Current	V _{DS} =0V, V _{GS} =±20V			3	uA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =60V, V _{GS} =0V			1	uA
		V _{DS} =60V, V _{GS} =0V, T _J =85°C			10	
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} =10V, I _D =0.3A		1.9	3	Ω
		V _{GS} =4.5V, I _D =0.2A		2.4	4	
g _{FS}	Forward Transconductance	V _{DS} =10V, I _D =0.2A		0.2		S
V _{SD}	Diode Forward Voltage	V _{GS} =0V, I _S =0.2A		0.75	1.4	V
Dynamic characteristics						
Q _g	Total Gate Charge	V _{DD} =10V, I _D =0.25A, V _{GS} =4.5V		500		pC
Q _{gs}	Gate-Source Charge			100		
Q _{gd}	Gate-Drain Charge			150		
C _{iss}	Input Capacitance	V _{DS} = 25V, f =1MHz, V _{GS} =0V		30		pF
C _{oss}	Output Capacitance			8		
C _{rss}	Reverse Transfer Capacitance			5		
t _{d(on)}	Turn-On Time	V _{DD} =30V, I _D =0.2A, R _G =10Ω, V _{GEN} =4.5V, R _L =150Ω		10	20	ns
t _r				35	50	
t _{d(off)}	Turn-Off Time			20	30	
t _f				40	60	

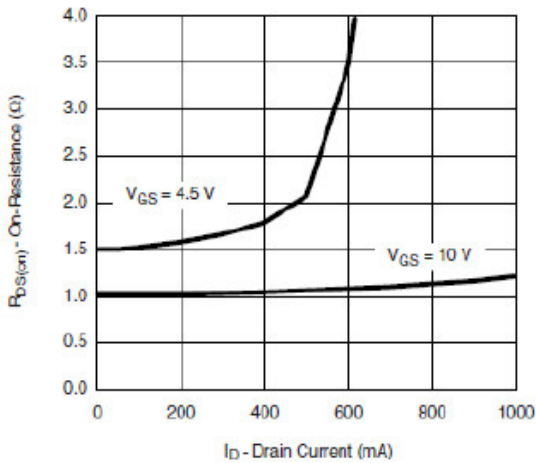
Typical Performance Characteristics



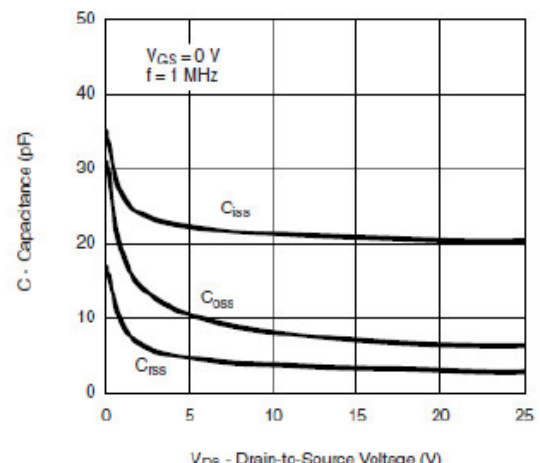
Output Characteristics



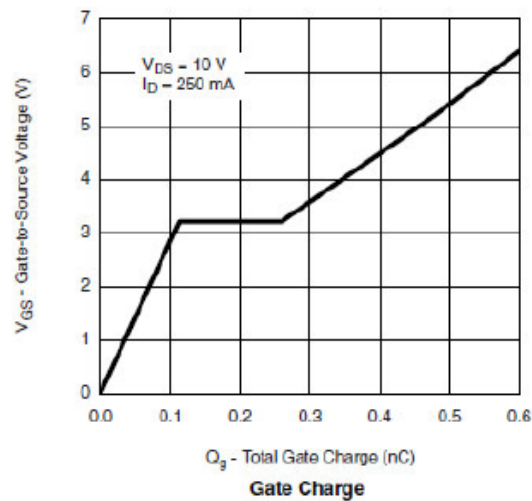
Transfer Characteristics



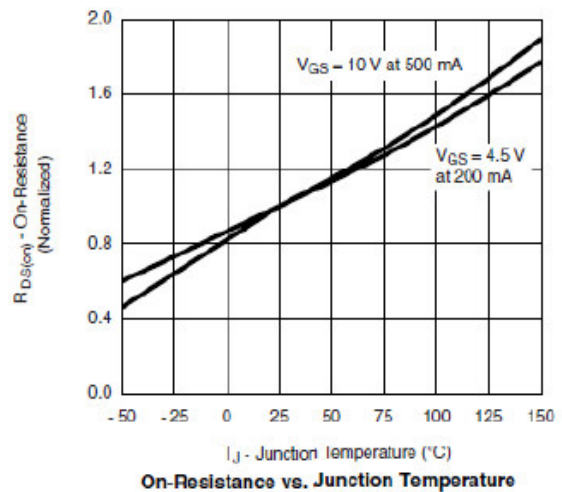
On-Resistance vs. Drain Current



Capacitance

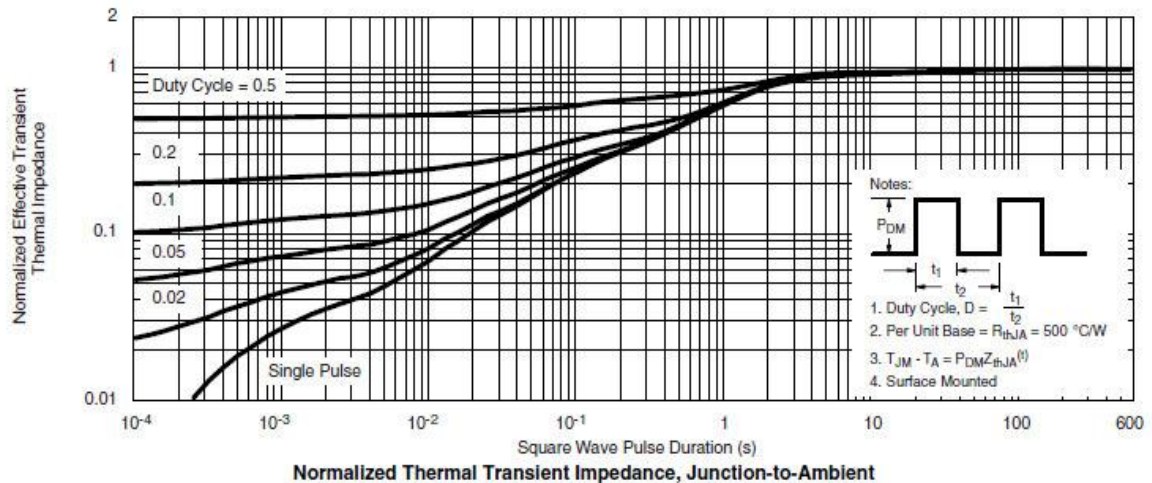
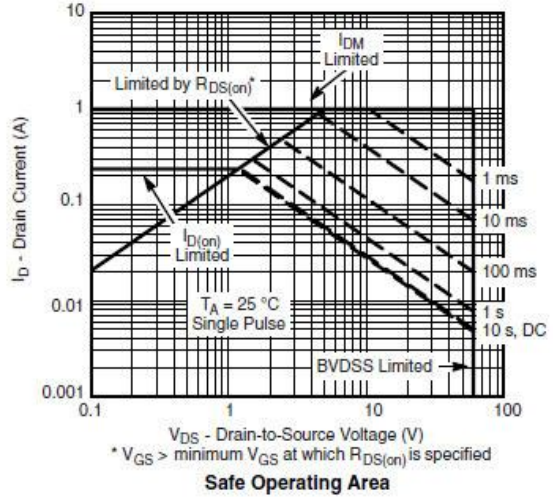
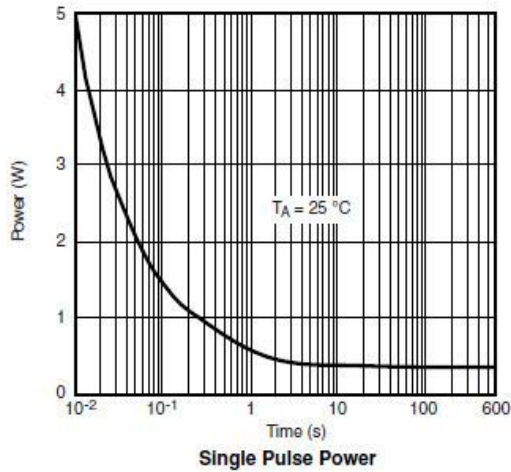
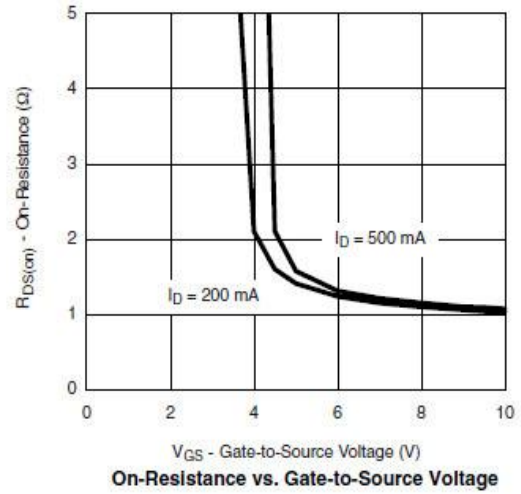
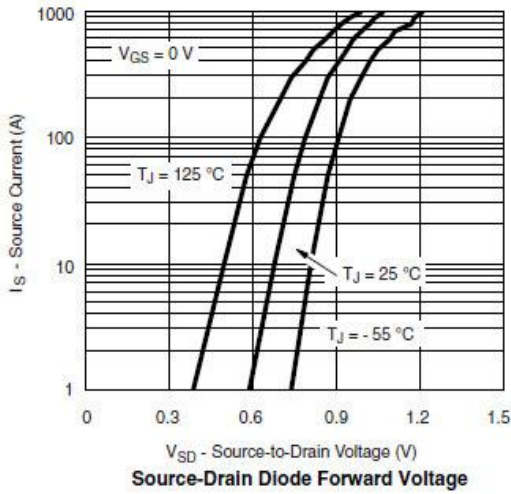


Gate Charge



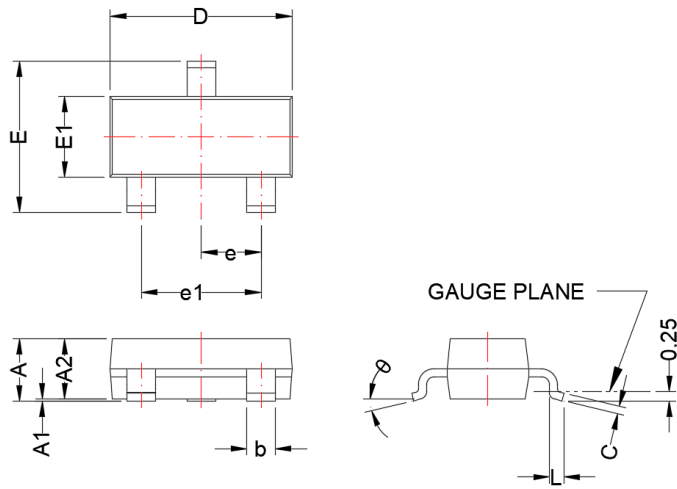
On-Resistance vs. Junction Temperature

Typical Performance Characteristics (Continue)

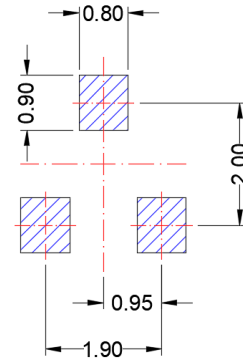


SOT-23

Package Dimension



Recommended Land Pattern



Unit:mm

Dimensions				
Symbol	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	0.75	1.17	0.030	0.046
A1	0.01	0.15	0.000	0.006
A2	0.70	1.02	0.028	0.040
b	0.30	0.50	0.012	0.020
c	0.08	0.20	0.003	0.008
D	2.80	3.04	0.110	0.120
E	2.10	2.64	0.083	0.104
E1	1.20	1.40	0.047	0.055
e	0.95 BSC		0.037 BSC	
e1	1.90 BSC		0.075 BSC	
L	0.30	0.60	0.012	0.024
θ	0°	8°	0°	8°





NOTE:



Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.

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