

GSM3660EJZF

30V N-Channel Enhancement Mode MOSFET

Product Description

GSM3660E, 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 low in-line power loss are needed in commercial industrial surface mount applications.

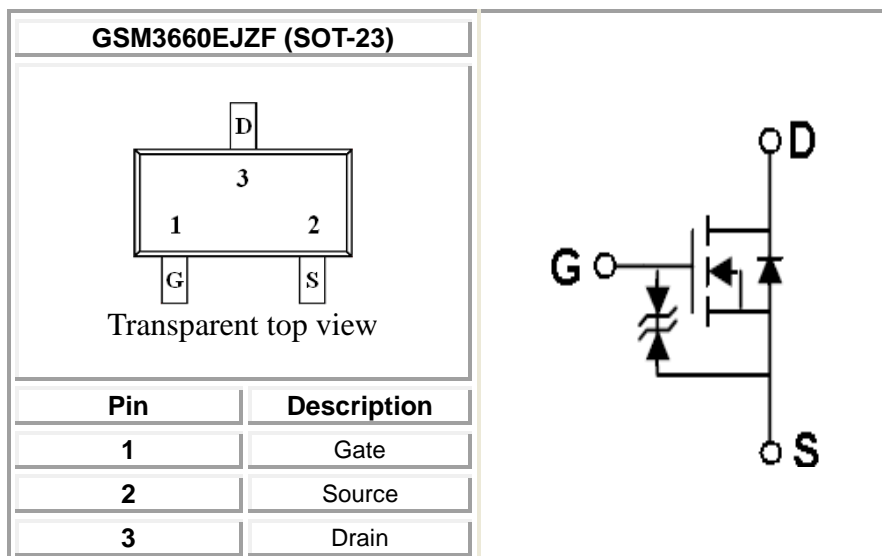
Features

- Low Gate Charge
- ESD Protected
- SOT-23 package design

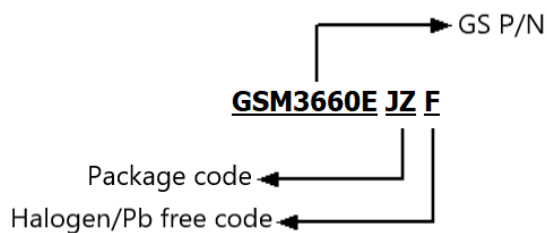
Applications

- Power Management in Note book
- Portable Equipment
- Load Switch
-

Packages & Pin Assignments

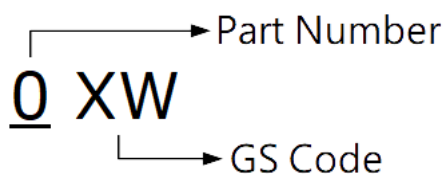


Ordering Information



Part Number	Package	Quantity Reel
GSM3660EJZF	SOT-23	3000 PCS

Marking Information



Absolute Maximum Ratings

(T_A=25°C unless otherwise noted)

Symbol	Parameter	Typical	Unit
V _{DSS}	Drain-Source Voltage	30	V
V _{GSS}	Gate-Source Voltage	±12	V
I _D	Continuous Drain Current(T _A =25°C)	0.57	A
I _{DM}	Pulsed Drain Current	2.0	A
I _S	Continuous Source Current(Diode Conduction)	0.28	A
P _D	Power Dissipation	0.3	W
R _{θJA}	Thermal Resistance Junction to ambient	363	°C/W
T _J	Operating Junction Temperature Range	-55 to +150	°C
T _{STG}	Storage Temperature Range	-55 to +150	°C

Electrical Characteristics

(T_A=25°C unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
Static						
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250uA	30			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250uA	0.5		1.5	
I _{GSS}	Gate Leakage Current	V _{DS} =0V, V _{GS} =±12V			±10	uA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =24V, V _{GS} =0V			100	nA
		V _{DS} =16V, V _{GS} =0V, T _J =85°C			30	uA
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} =10V, I _D =0.5A		340	600	mΩ
		V _{GS} =4.5V, I _D =0.4A		412	650	
		V _{GS} =2.5V, I _D =0.3A		625	1200	
g _{FS}	Forward Transconductance	V _{DS} =10V, I _D =0.5A		1.2		S
V _{SD}	Diode Forward Voltage	I _S =0.25A, V _{GS} =0V			1.35	V
Dynamic						
Q _g	Total Gate Charge	V _{DS} =15V, V _{GS} =10V, I _D =0.5A		1.5		nC
Q _{gs}	Gate-Source Charge			0.2		
Q _{gd}	Gate-Drain Charge			0.2		
C _{iss}	Input Capacitance	V _{DS} =15V, V _{GS} =0V f=1MHz		39		pF
C _{oss}	Output Capacitance			9		
C _{rss}	Reverse Transfer Capacitance			6		
t _{d(on)}	Turn-On Time	V _{DD} =15V, I _D =0.5A, V _{GS} =10V, R _G =2.5Ω		5.3		ns
t _r				16		
t _{d(off)}	Turn-Off Time			20		
t _f				18		

Typical Performance Characteristics

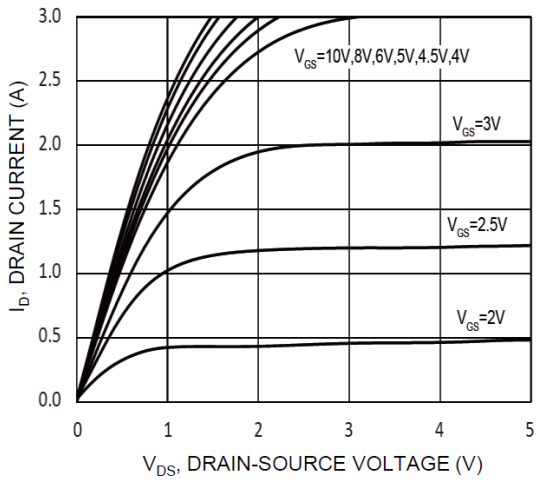


Fig. 1 Typical Output Characteristics

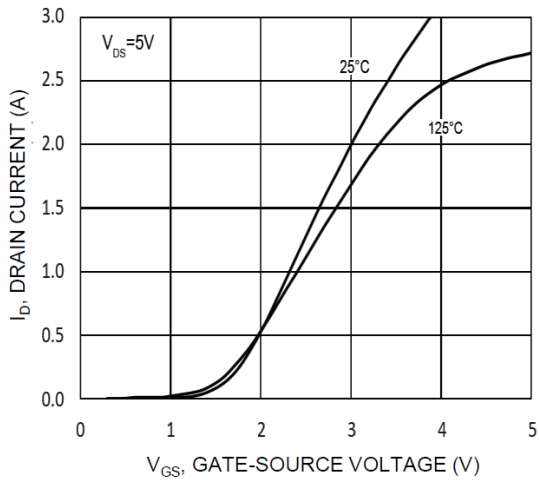


Fig. 2 Typical Transfer Characteristics

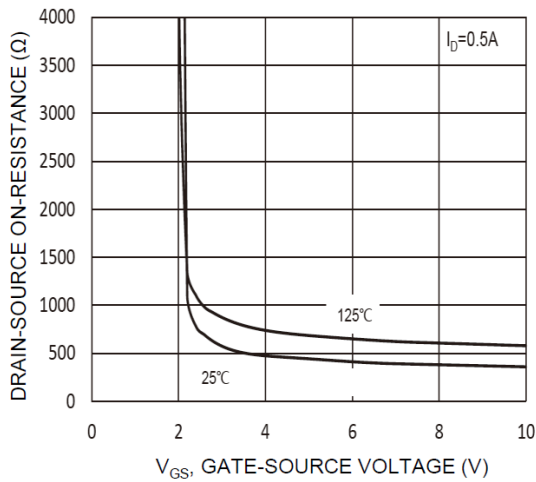


Fig. 3 Typical On-Resistance vs. V_{GS}

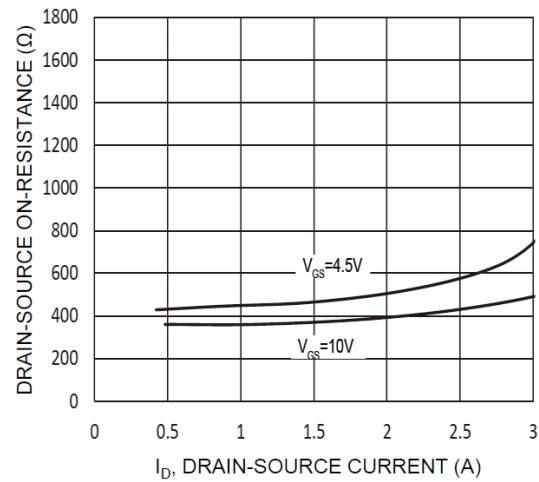


Fig. 4 Typical On-Resistance vs. I_D

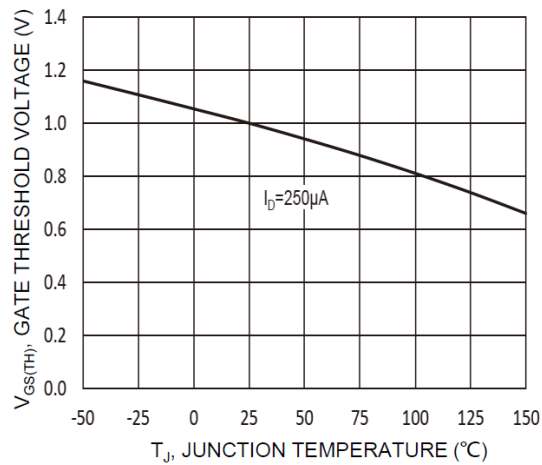


Fig. 5 Normalized Threshold Voltage

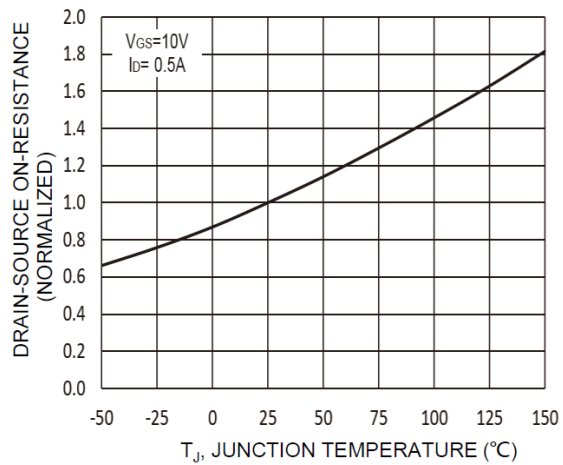


Fig. 6 On-Resistance Variation with T_J

Typical Performance Characteristics (Continue)

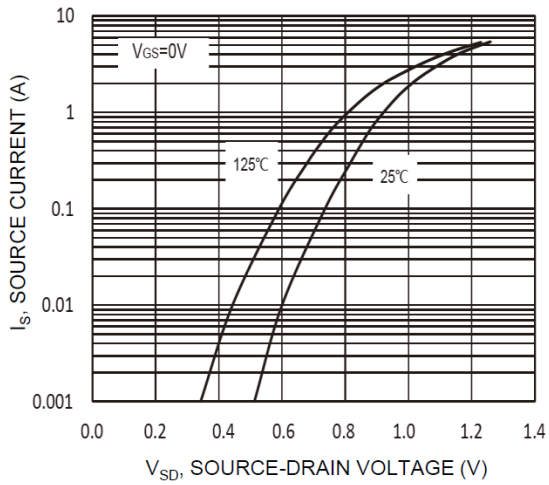


Fig. 7 Diode Forward Voltage vs. Current

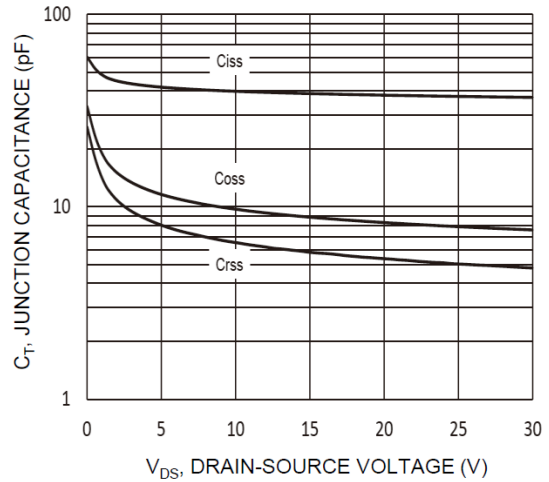


Fig. 8 Typical Capacitance

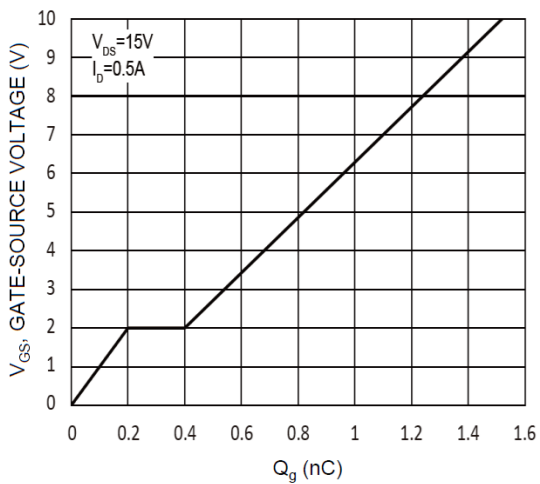


Fig. 9 Gate Charge

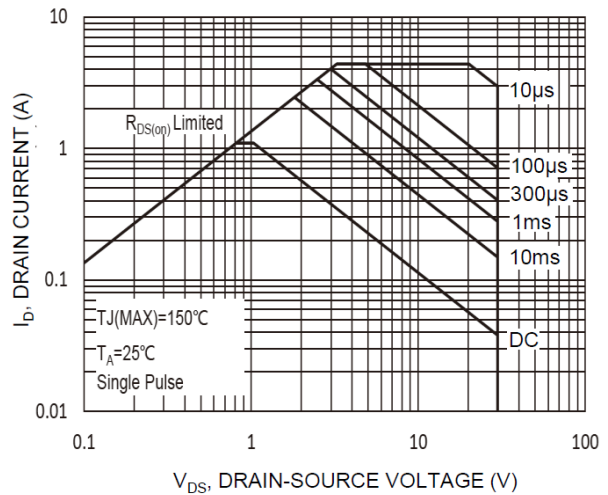


Fig. 10 Safe Operation Area

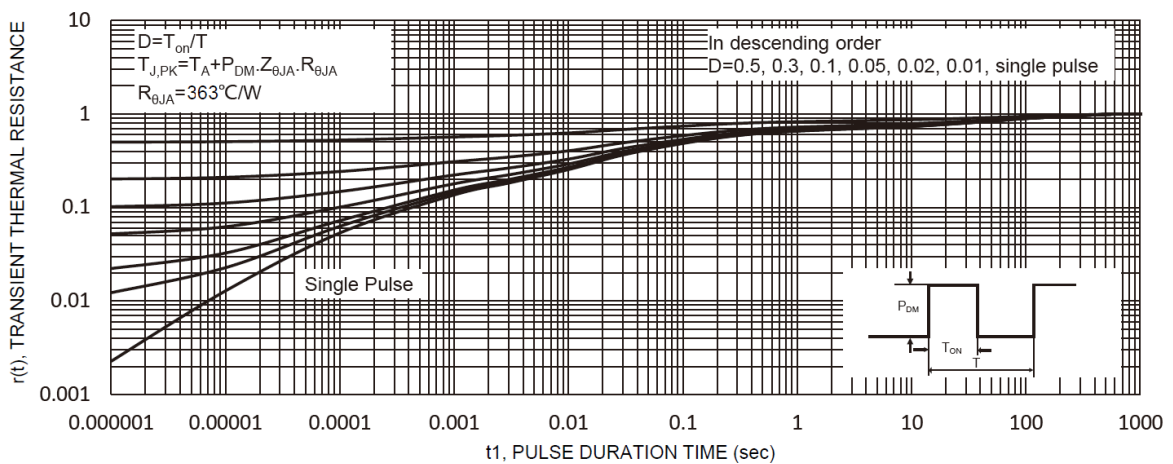
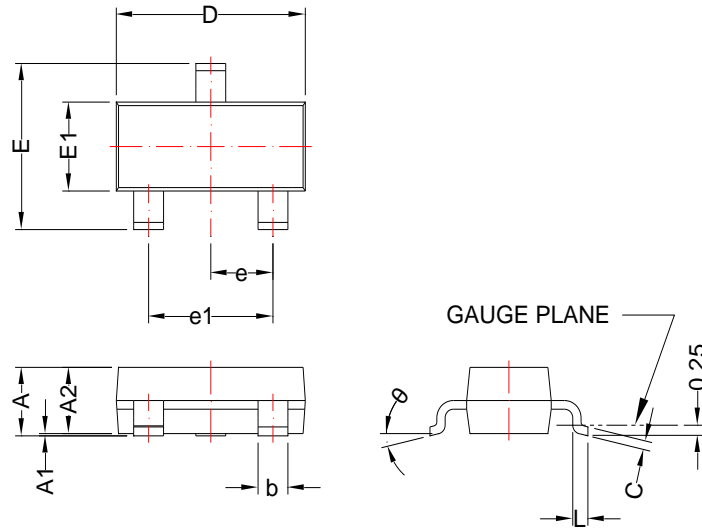


Fig. 11 Transient Thermal Response

Package Dimension

SOT-23









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
A	0.75	1.17	0.030	0.046
e	0.95 BSC		0.037 BSC	
e1	1.90 BSC		0.075 BSC	
L	0.3	0.6	0.012	0.024
θ	0°	8°	0°	8°

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