GSM6562

30V N-Channel Enhancement Mode MOSFET

Product Description

GSM6562, 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, and low in-line power loss are needed in commercial industrial surface mount applications.

Features

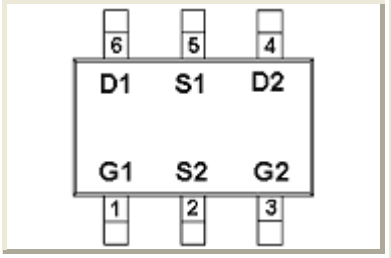
- 30V/3.6A,$R_{DS(ON)}$=70mΩ@V_{GS}=10V
- 30V/3.0A,$R_{DS(ON)}$=78mΩ@V_{GS}=4.5V
- 30V/2.2A,$R_{DS(ON)}$=95mΩ@V_{GS}=2.5V
- Super high density cell design for extremely low $R_{DS\ (ON)}$
- TSOP-6 package design

Applications

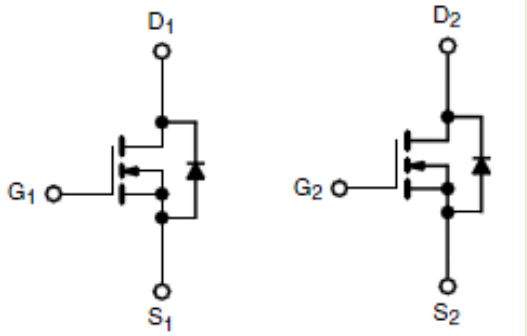
- Power Management in Note book
- LED Display
- DC-DC System
- LCD Panel

Packages & Pin Assignments

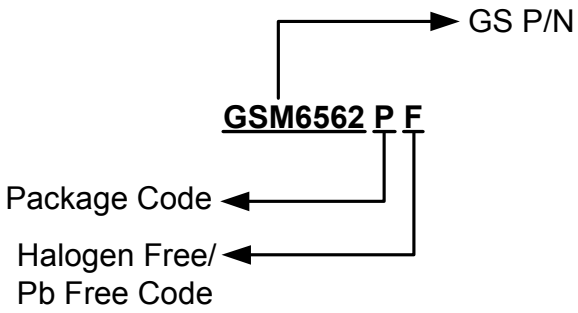
GSM6562TSF(TSOP-6)



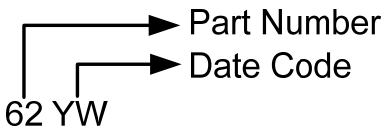
1	Gate1	4	Drain2
2	Source2	5	Source1
3	Gate2	6	Drain1



Ordering Information



Marking Information



Part Number	Package	Part Marking
GSM6562TSF	TSOP-6	62YW

Absolute Maximum Ratings

(T_A=25ºC unless otherwise noted)

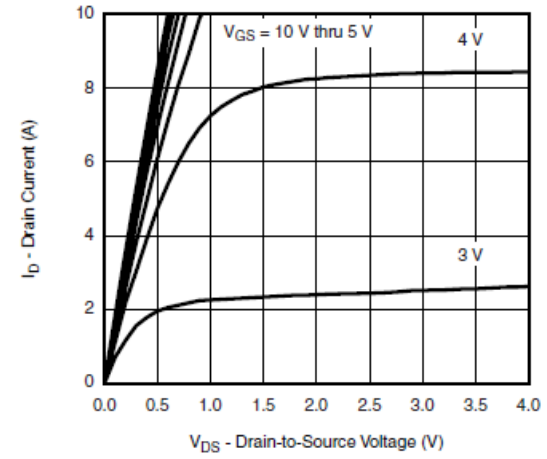
Symbol	Parameter		Typical	Unit
V_{DSS}	Drain-Source Voltage		30	V
V_{GSS}	Gate –Source Voltage		±12	V
I_D	Continuous Drain Current(TJ=150℃)	T_A=25℃	3.6	A
		T_A=70℃	2.2	
I_{DM}	Pulsed Drain Current		20	A
I_S	Continuous Source Current(Diode Conduction)		1.7	A
P_D	Power Dissipation	T_A=25℃	2.0	W
		T_A=70℃	1.3	
T_J	Operating Junction Temperature		150	ºC
T_{STG}	Storage Temperature Range		-55/150	ºC
$R_{\theta JA}$	Thermal Resistance-Junction to Ambient		120	ºC/W

Electrical Characteristics

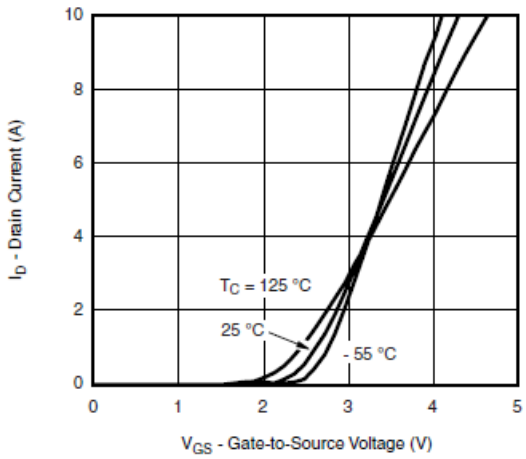
(T_A=25ºC unless otherwise noted)

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	0.4		1.2	
I_{GSS}	Gate Leakage Current	V_{DS}=0V,V_{GS}=±12V			±100	nA
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=24V,V_{GS}=0V			1	uA
		V_{DS}=24V,V_{GS}=0V T_J=85℃			30	
$I_{D(on)}$	On-State Drain Current	V_{DS}≧5V,V_{GS}=4.5V	30			A
$R_{DS(on)}$	Drain-Source On-Resistance	V_{GS}=10V ,I_D=3.6A		56	70	mΩ
		V_{GS}=4.5V,I_D=3.0A		62	78	
		V_{GS}=2.5V,I_D=2.2A		78	95	
g_{fs}	Forward Transconductance	V_{DS}=10V,I_D=1.6A		20		S
V_{SD}	Diode Forward Voltage	I_S=1.7A,V_{GS}=0V		0.8	1.2	V
Dynamic						
C_{iss}	Input Capacitance	V_{DS}=15V,V_{GS}=0V f=1MHz		280		pF
C_{oss}	Output Capacitance			40		
C_{rss}	Reverse Transfer Capacitance			20		
Q_g	Total Gate Charge	V_{DS}=15V,V_{GS}=4.5V I_D≡3.6A		2.3	3	nC
Q_{gs}	Gate-Source Charge			1.0		
Q_{gd}	Gate-Drain Charge			0.6		
$t_{d(on)}$	Turn-On Time	V_{DD}=15V,R_L=15Ω I_D≡1.0A,V_{GEN}=10V R_G=6Ω		10	15	ns
T_r				12	20	
$t_{d(off)}$	Turn-Off Time			15	25	
T_f				10	15	

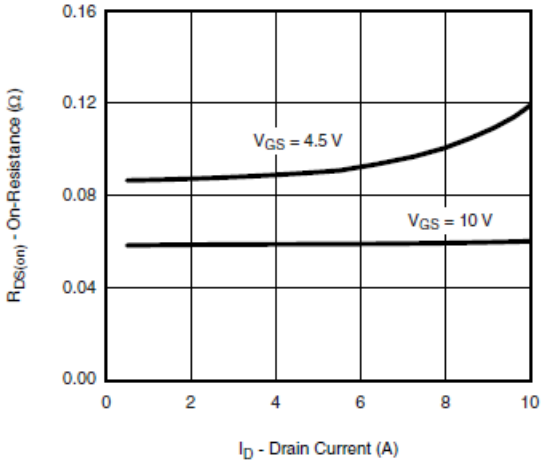
Typical Performance Characteristics



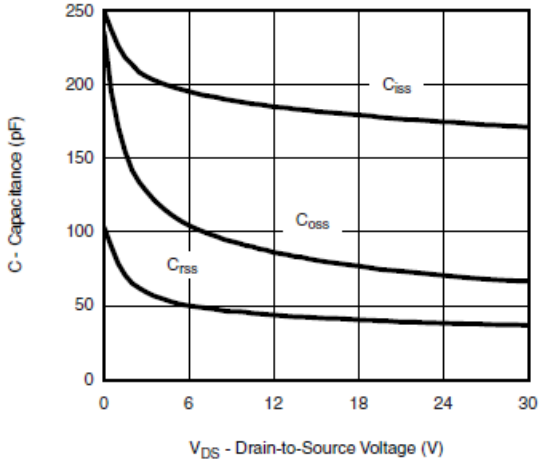
Output Characteristics



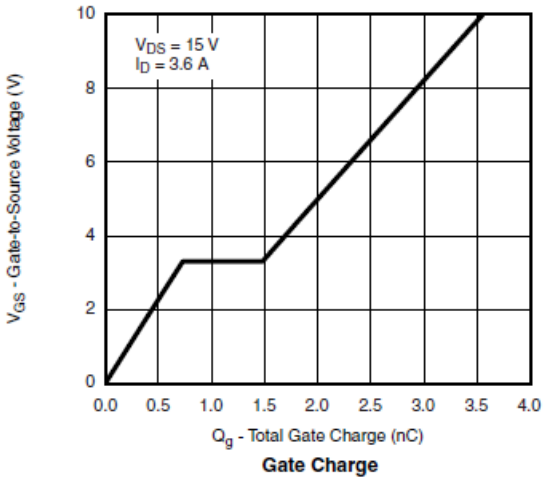
Transfer Characteristics



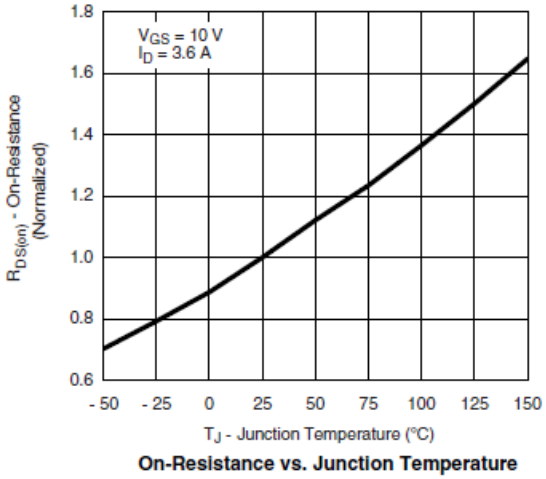
On-Resistance vs. Drain Current



Capacitance

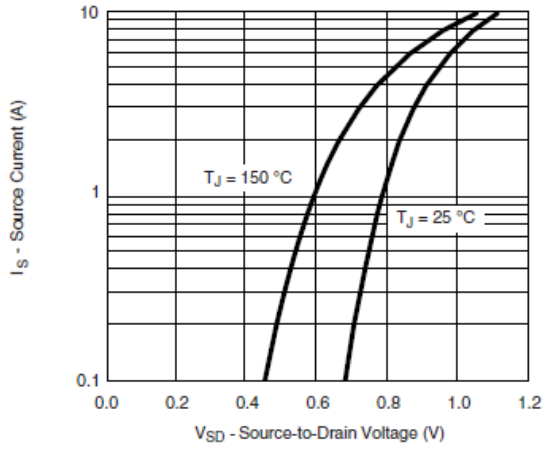


Gate Charge

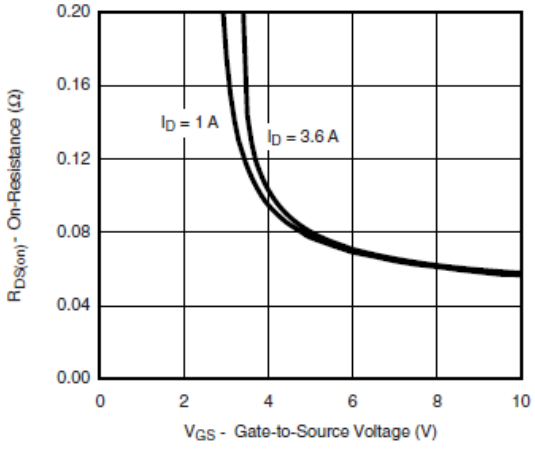


On-Resistance vs. Junction Temperature

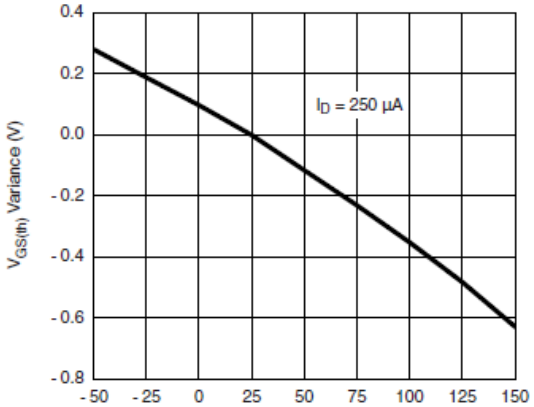
Typical Performance Characteristics (continue)



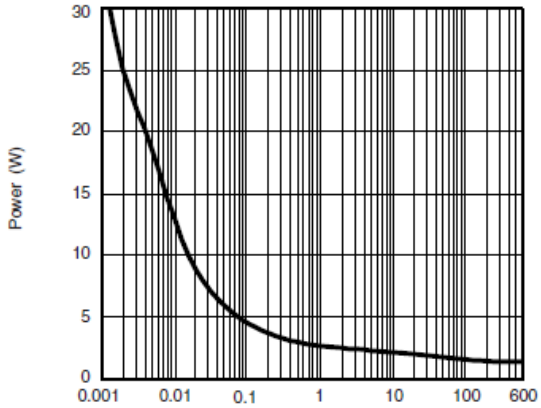
Source-Drain Diode Forward Voltage



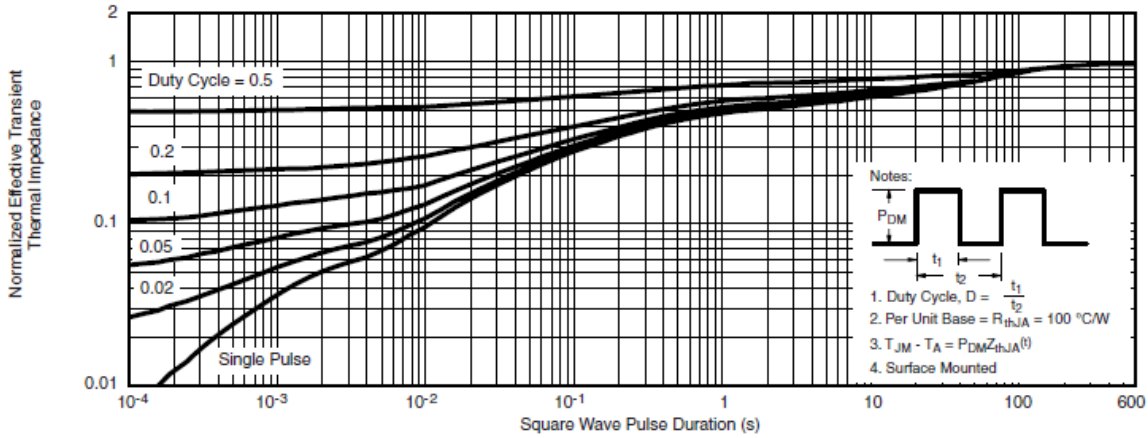
On-Resistance vs. Gate-to-Source Voltage



Threshold Voltage



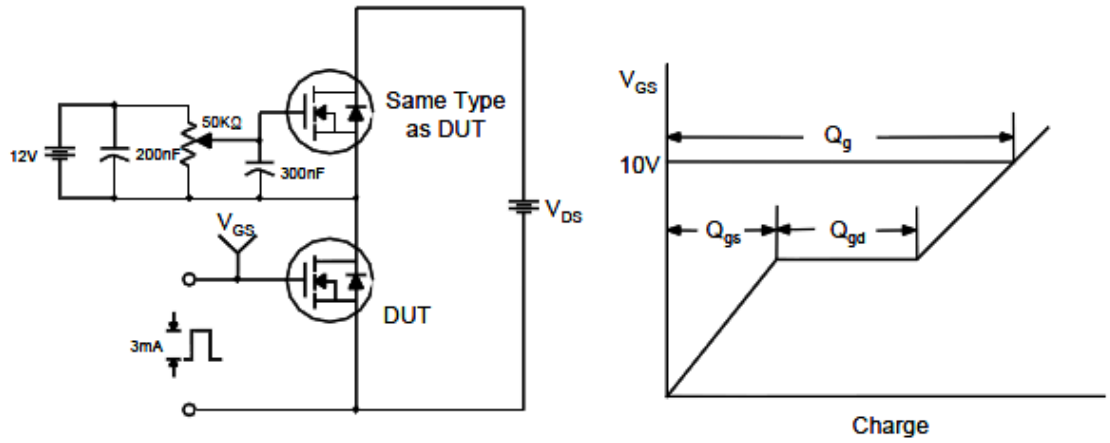
Single Pulse Power



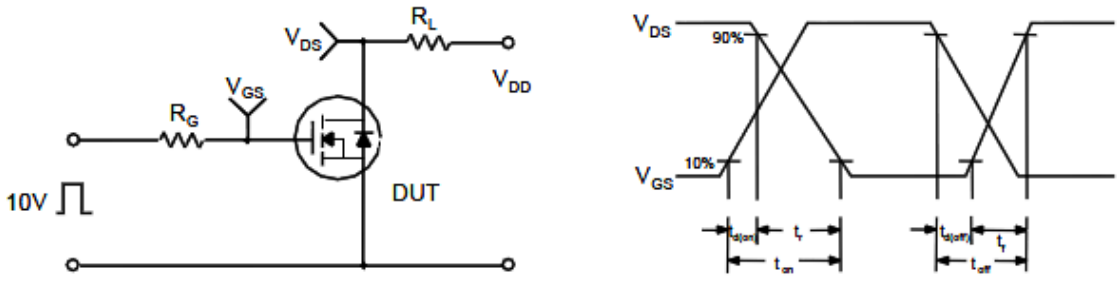
Normalized Thermal Transient Impedance, Junction-to-Ambient

Typical Characteristics

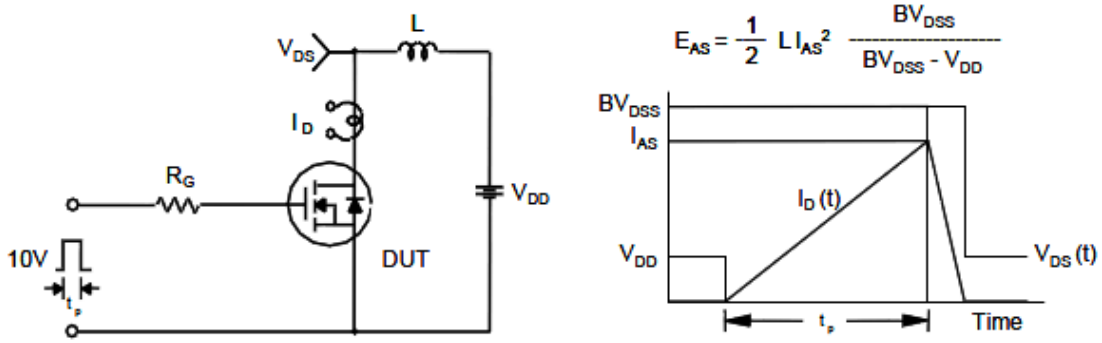
Gate Charge Test Circuit & Waveform



Resistive Switching Test Circuit & Waveforms

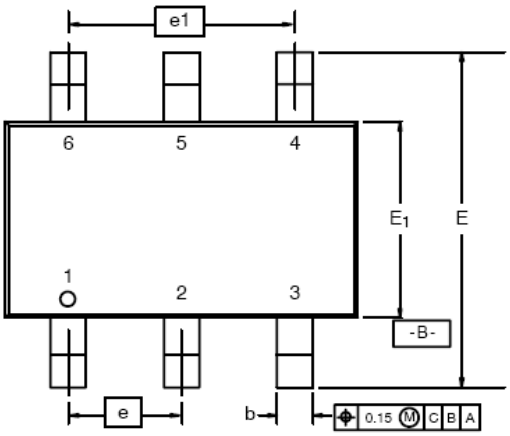


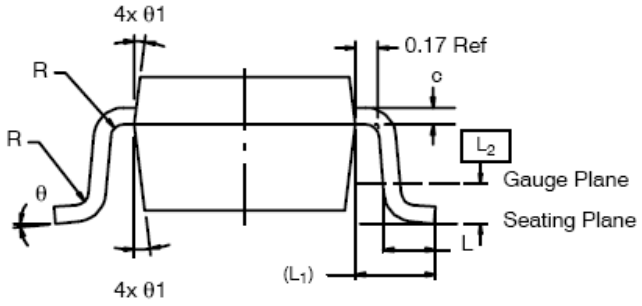
Unclamped Inductive Switching Test Circuit & Waveforms



Package Dimension

TSOP-6 PLASTIC PACKAGE





Dimensions

SYMBOL	Millimeters			Inches		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.91	-	1.10	0.036	-	0.043
A_1	0.01	-	0.10	0.0004	-	0.004
A_2	0.90	-	1.00	0.035	0.038	0.039
b	0.30	0.32	0.45	0.012	0.013	0.018
c	0.10	0.15	0.20	0.004	0.006	0.008
D	2.95	3.05	3.10	0.116	0.120	0.122
E	2.70	2.85	2.98	0.106	0.112	0.117
E_1	1.55	1.65	1.70	0.061	0.065	0.067
e	1.00 BSC			0.0394 BSC		
e_1	1.90	2.00	2.10	0.075	0.080	0.085
L	0.35	-	0.50	0.014	-	0.020
L_1	0.60 Ref			0.024 Ref		
L_2	0.25 BSC			0.010 BSC		
R	0.10	-	-	0.004	-	-
θ	0°	4°	8°	0°	4°	8°
$θ_1$	7° Nom			7° Nom		

NOTICE

Information furnished is believed to be accurate and reliable. However Globaltech Semiconductor assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties, which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of Globaltech Semiconductor. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information without express written approval of Globaltech Semiconductor.

CONTACT US

GS Headquarter	
	4F.,No.43-1,Lane11,Sec.6,Minquan E.Rd Neihu District Taipei City 114, Taiwan (R.O.C)
	886-2-2657-9980
	886-2-2657-3630
	sales_twn@gs-power.com

Wu-Xi Branch	
	No.21 Changjiang Rd., WND, Wuxi, Jiangsu, China (INFO. &. TECH. Science Park Building A 210 Room)
	86-510-85217051
	86-510-85211238
	sales_cn@gs-power.com

RD Division	
	824 Bolton Drive Milpitas. CA. 95035
	1-408-457-0587