

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.

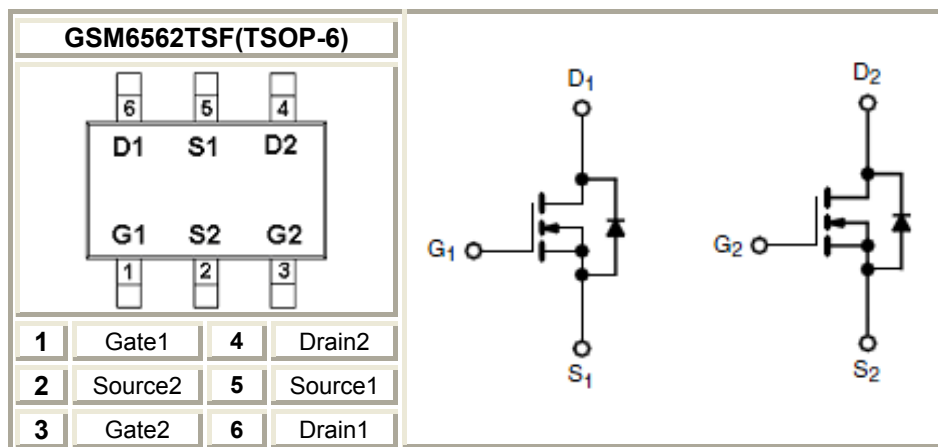
Features

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

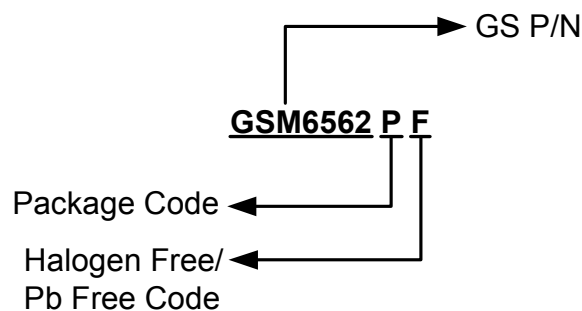
Applications

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

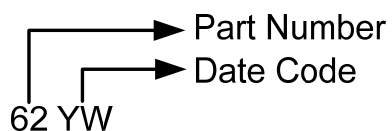
Packages & Pin Assignments



Ordering Information



Marking Information



Part Number	Package	Part Marking
GSM6562TSF	TSOP-6	62YW

Absolute Maximum Ratings

(T_A=25°C unless otherwise noted)

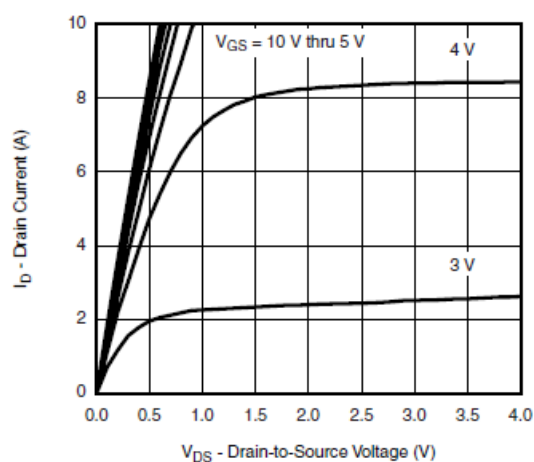
Symbol	Parameter		Typical	Unit
V _{DSS}	Drain-Source Voltage		30	V
V _{GSS}	Gate –Source Voltage		±12	V
I _D	Continuous Drain Current(T _J =150℃)	T _A =25℃	3.6	A
		T _A =70℃	2.2	
I _{DM}	Pulsed Drain Current		20	A
I _S	Continuous Source Current(Diode Conduction)		1.7	A
P _D	Power Dissipation	T _A =25℃	2.0	W
		T _A =70℃	1.3	
T _J	Operating Junction Temperature		150	℃
T _{STG}	Storage Temperature Range		-55/150	℃
R _{θJA}	Thermal Resistance-Junction to Ambient		120	℃/W

Electrical Characteristics

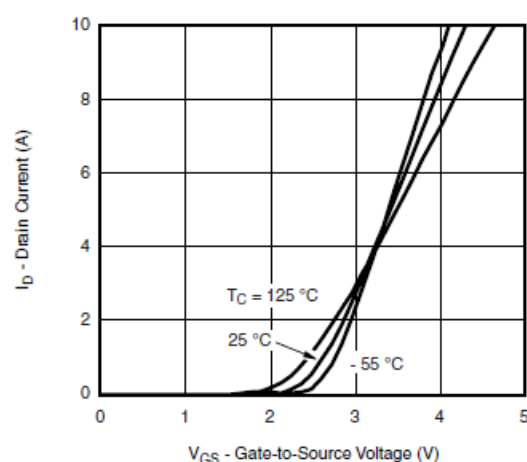
(T_A=25°C unless otherwise noted)

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	0.4		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	

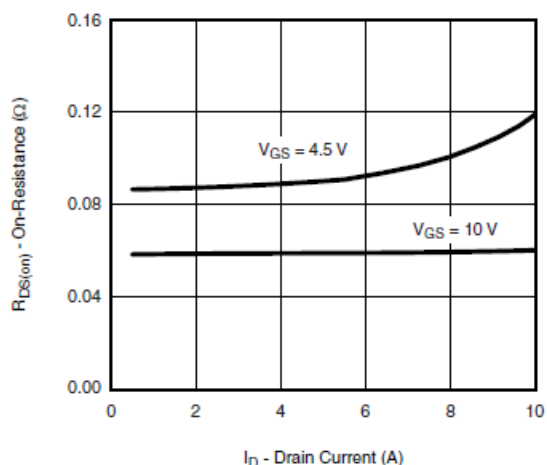
Typical Performance Characteristics



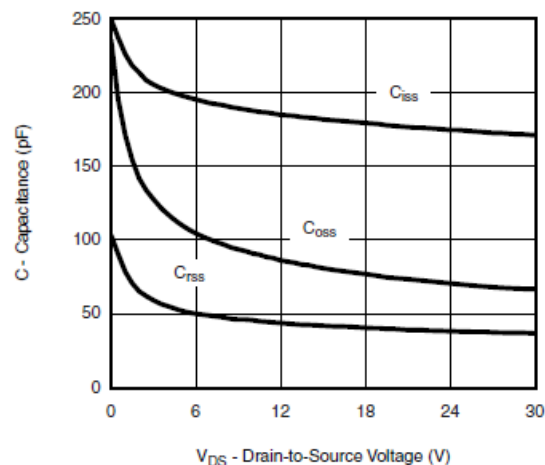
Output Characteristics



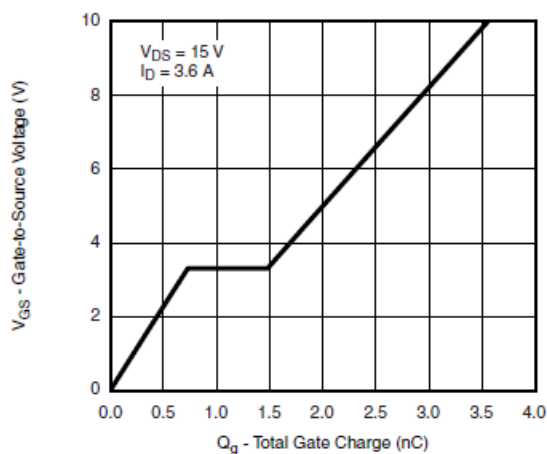
Transfer Characteristics



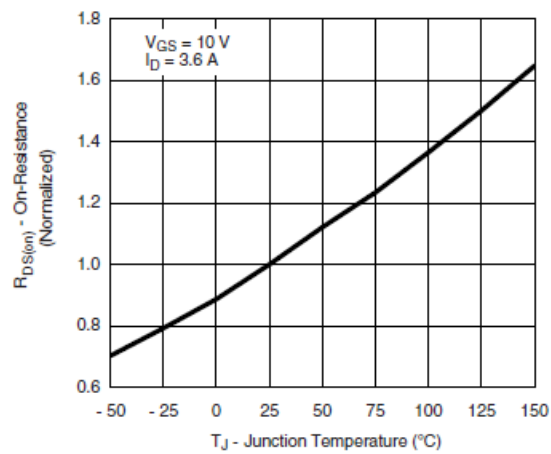
On-Resistance vs. Drain Current



Capacitance

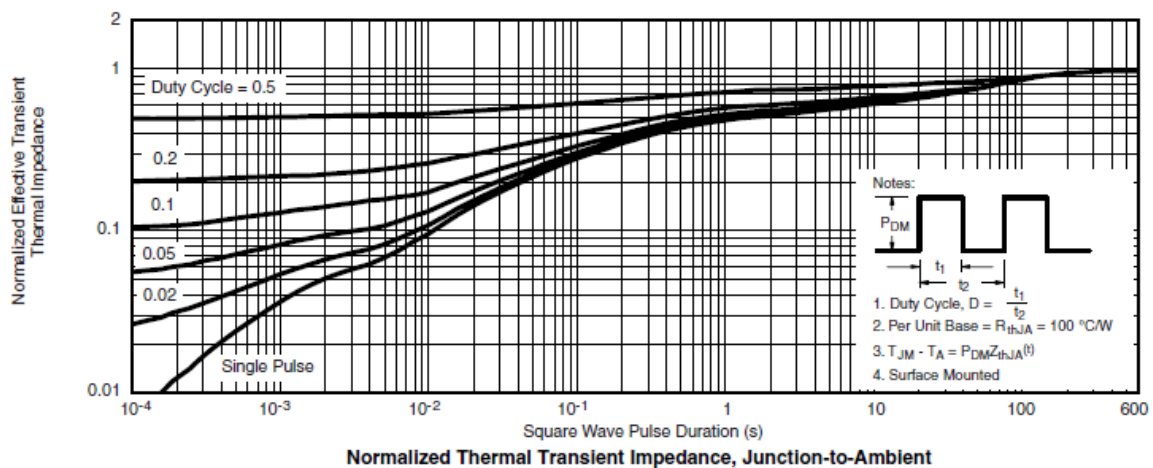
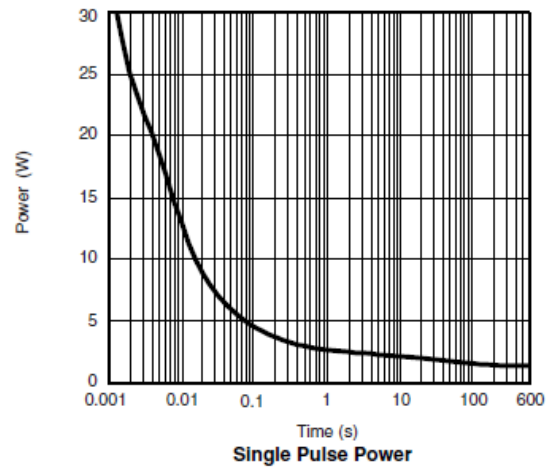
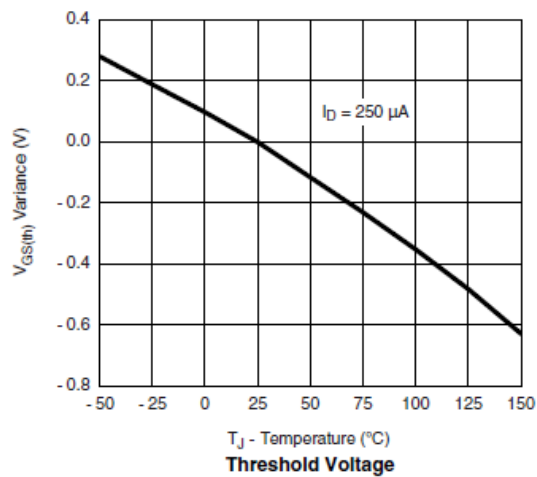
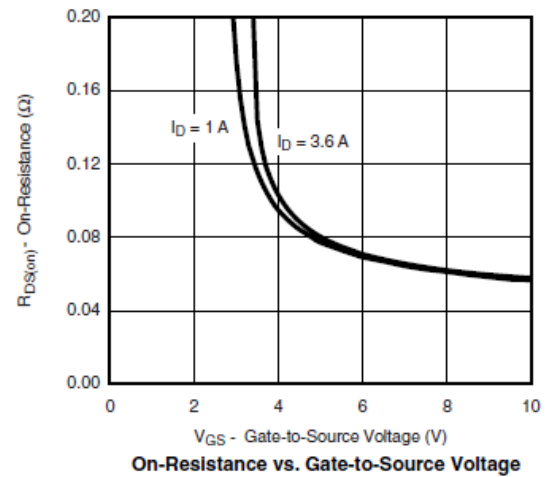
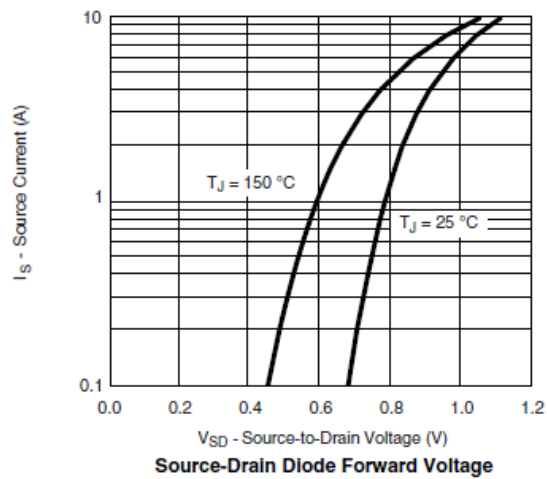


Gate Charge



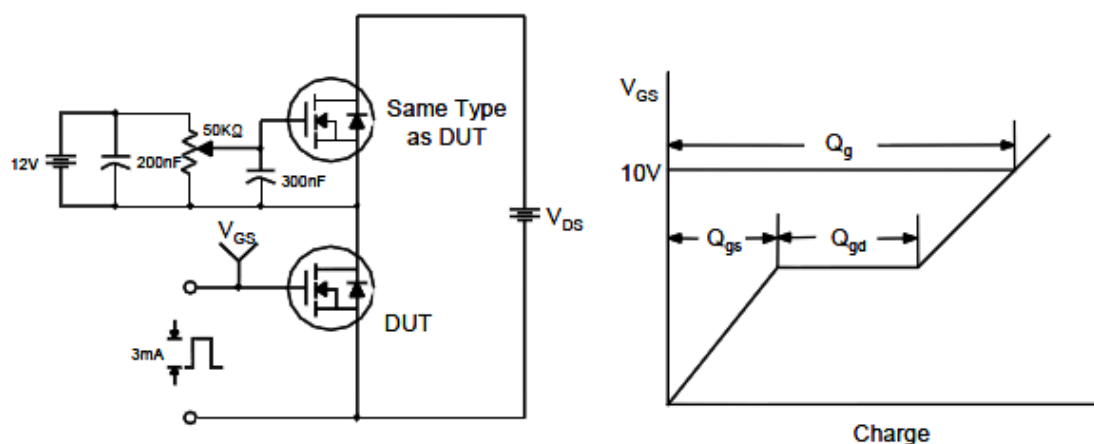
On-Resistance vs. Junction Temperature

Typical Performance Characteristics (continue)

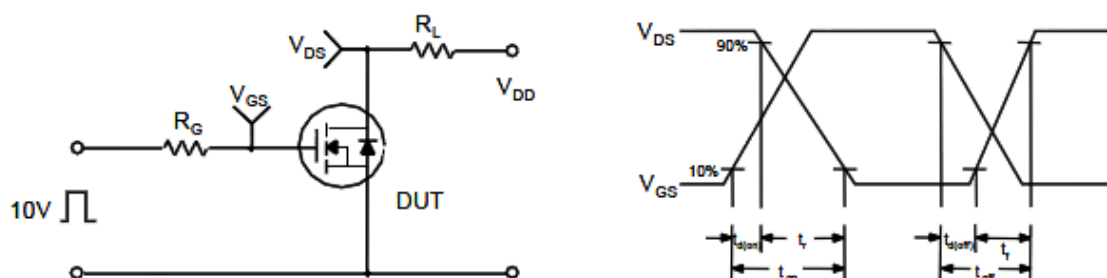


Typical Characteristics

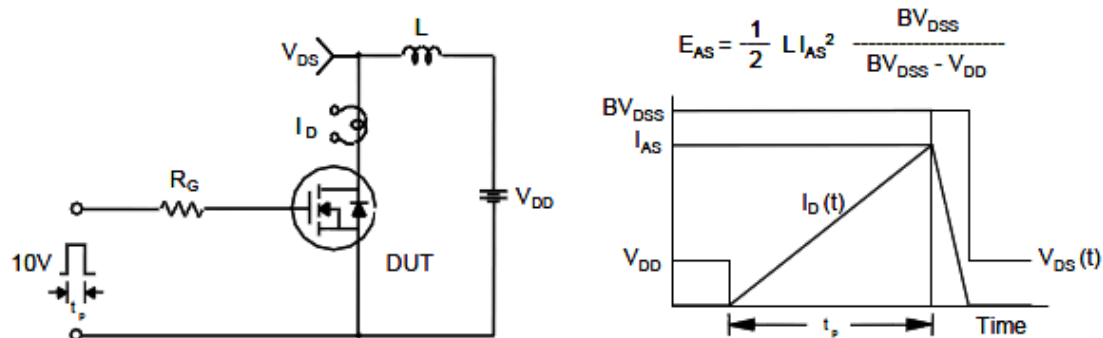
Gate Charge Test Circuit & Waveform



Resistive Switching Test Circuit & Waveforms

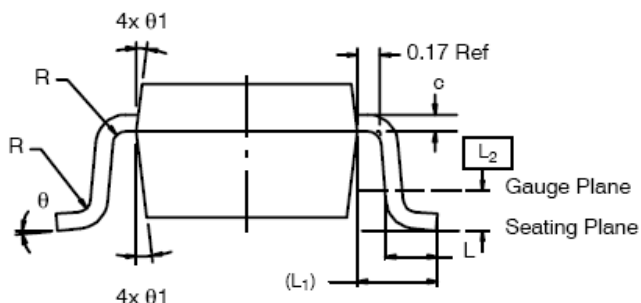
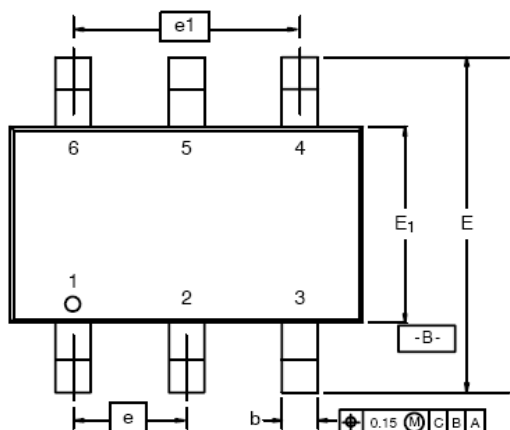


Unclamped Inductive Switching Test Circuit & Waveforms



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

Shenzhen Branch(China)	
	1113 B Building, Happiness Washington, Baoan Nan Road, Luohu District, Shenzhen City, China
	0755-22208941
	sales_cn@gs-power.com

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