GSM3497

20V P-Channel Enhancement Mode MOSFET

Product Description

GSM3497, P-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

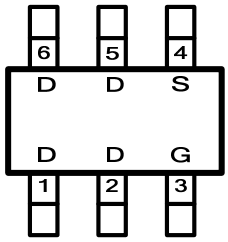
- -20V/-3.8A,$R_{DS(ON)}$=100mΩ@V_{GS}=-4.5V
- -20V/-2.6A,$R_{DS(ON)}$=140mΩ@V_{GS}=-2.5V
- -20V/-1.5A,$R_{DS(ON)}$=190mΩ@V_{GS}=-1.8V
- Super high density cell design for extremely low $R_{DS\ (ON)}$
- Exceptional on-resistance and maximum DC current capability
- TSOP-6 package design

Applications

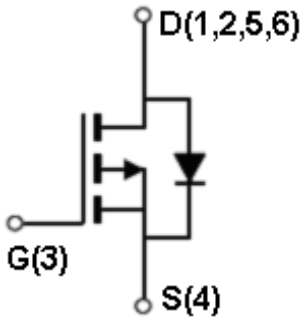
- Power Management in Note book
- Portable Equipment
- Battery Powered System
- Net Working System

Packages & Pin Assignments

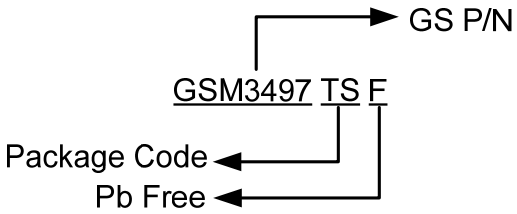
GSM3497TSF(TSOP-6)



Pin	Description
1	Drain
2	Drain
3	Gate
4	Source
5	Drain
6	Drain

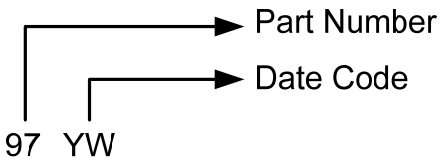


Ordering Information



Part Number	Package	Quantity Reel
GSM3497TSF	TSOP-6	3000 PCS

Marking Information



Absolute Maximum Ratings

T_A=25ºC, unless otherwise noted

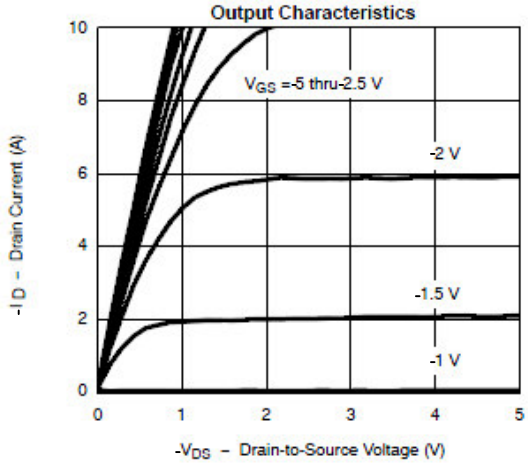
Symbol	Parameter		Typical	Unit
V_{DSS}	Drain-Source Voltage		-20	V
V_{GSS}	Gate-Source Voltage		±12	V
I_D	Continuous Drain Current(T_J=150ºC)	T_A=25ºC	-3.8	A
		T_A=70ºC	-2.6	
I_{DM}	Pulsed Drain Current		-20	A
I_S	Continuous Source Current(Diode Conduction)		-1.7	A
P_D	Power Dissipation	T_A=25ºC	2.0	W
		T_A=70ºC	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

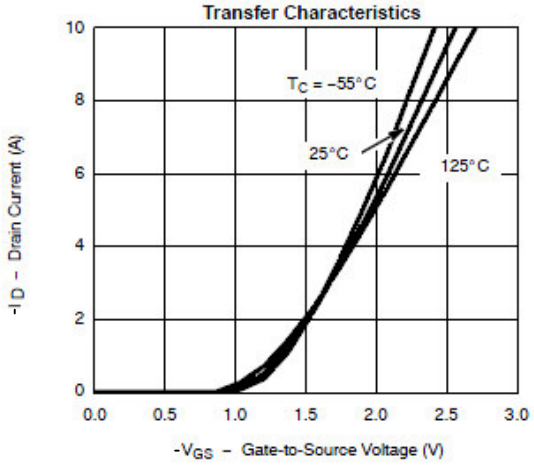
Electrical Characteristics

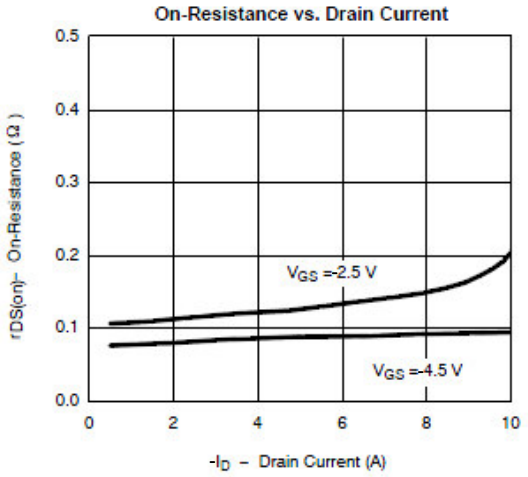
T_A=25ºC, unless otherwise noted

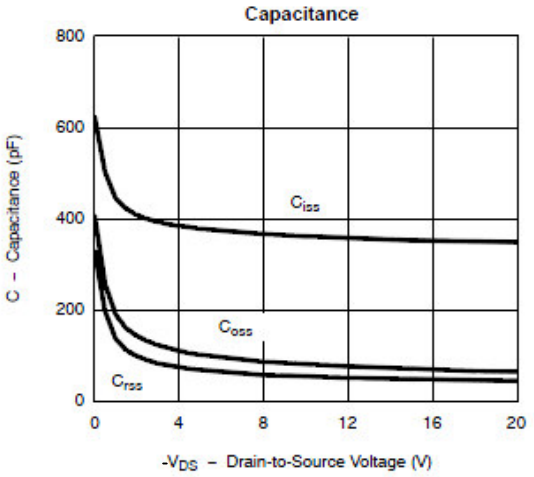
Symbol	Parameter	Conditions	Min	Typ	Max	Unit
Static						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	V_{GS}=0V,I_D=-250uA	-20			V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS},I_D=-250uA	-0.3		-0.7	
I_{GSS}	Gate Leakage Current	V_{DS}=0V,V_{GS}=±12V			±100	nA
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=-16V,V_{GS}=0V			-1	uA
		V_{DS}=-16V,V_{GS}=0V, T_J=85ºC			-30	
$I_{D(on)}$	On-State Drain Current	V_{DS}≦-5V,V_{GS}=-4.5V	-6			A
		V_{DS}≦-5V,V_{GS}=-2.5V	-3			
$R_{DS(on)}$	Drain-Source On-Resistance	V_{GS}=-4.5V,I_D=-3.8A		90	100	mΩ
		V_{GS}=-2.5V,I_D=-2.6A		124	140	
		V_{GS}=-1.8V,I_D=-1.5A		170	190	
g_{FS}	Forward Transconductance	V_{DS}=-5V,I_D=-2.8A		6.5		S
V_{SD}	Diode Forward Voltage	I_S=-1.25A,V_{GS}=0V		-0.75	-1.3	V
Dynamic						
Q_g	Total Gate Charge	V_{DS}=-6V, V_{GS}=-4.5V,I_D=-2.8A		5.8	10	nC
Q_{gs}	Gate-Source Charge			0.85		
Q_{gd}	Gate-Drain Charge			1.7		
C_{iss}	Input Capacitance	V_{DS}=-6V, V_{GS}=0V,f=1MHz		415		pF
C_{oss}	Output Capacitance			223		
C_{rss}	Reverse Transfer Capacitance			87		
$t_{d(on)}$	Turn-On Time	V_{DD}=-6V, R_L=6Ω,I_D=-1.0A, V_{GEN}=-4.5V,R_G=6Ω		13	25	ns
t_r				36	60	
$t_{d(off)}$	Turn-Off Time			42	70	
t_f				34	60	

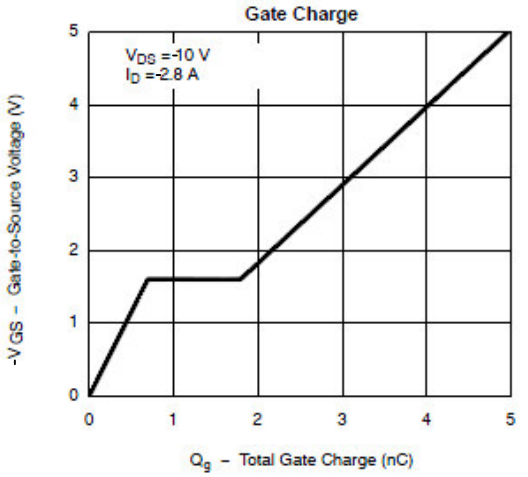
Typical Performance Characteristics

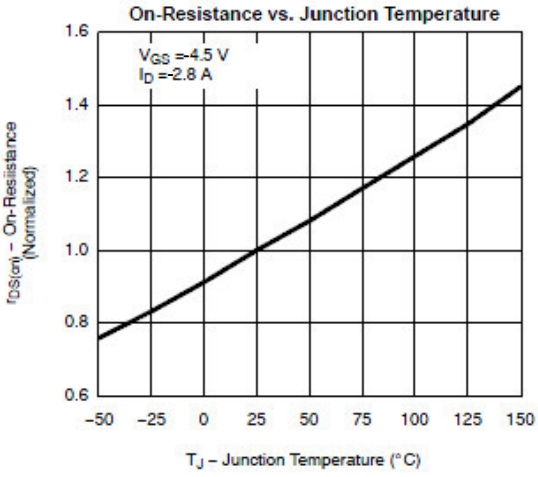






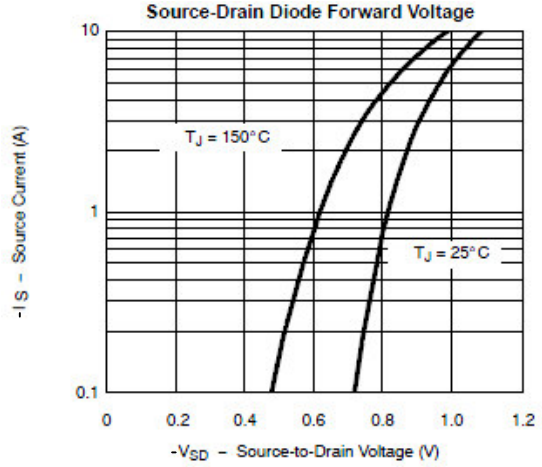




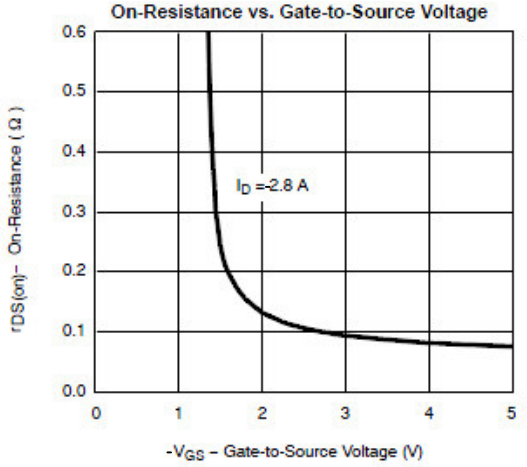


Typical Performance Characteristics (continue)

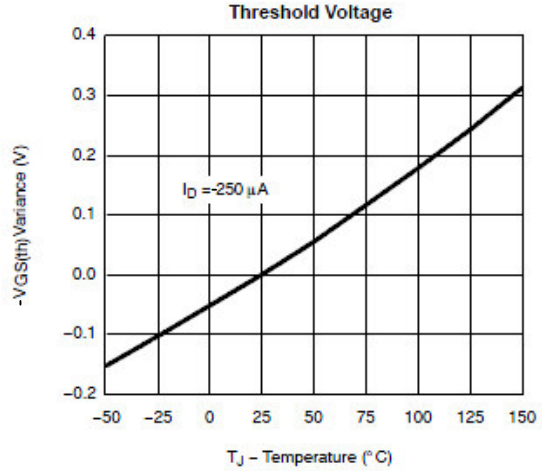
Source-Drain Diode Forward Voltage



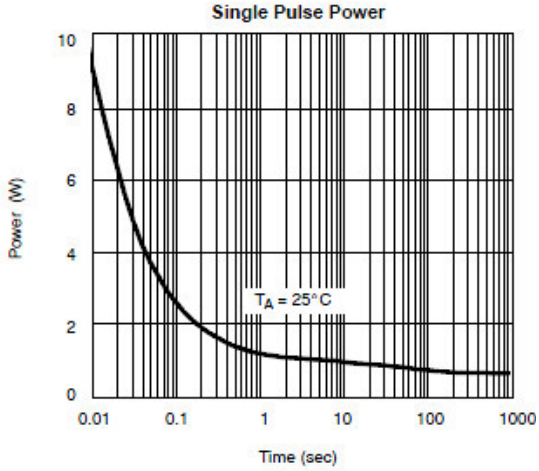
On-Resistance vs. Gate-to-Source Voltage



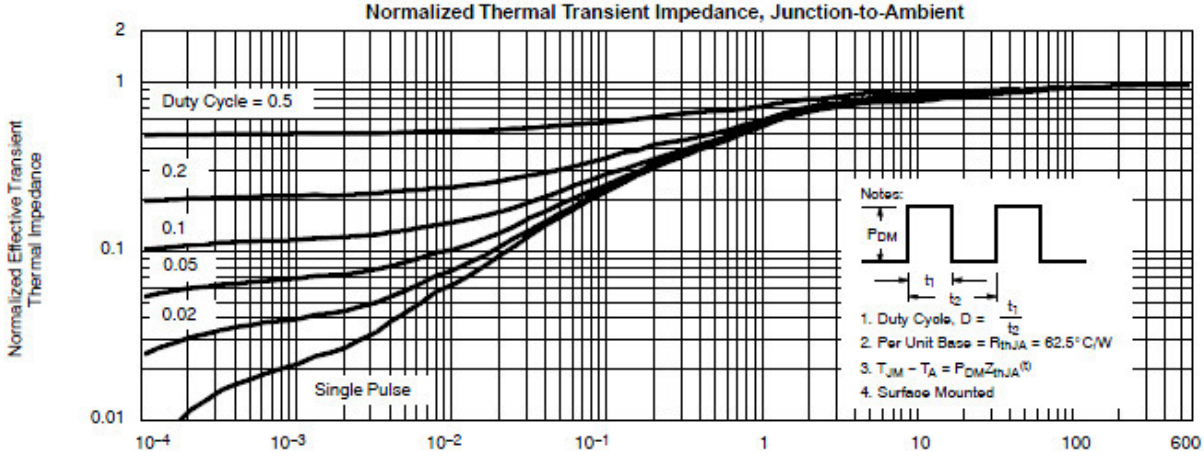
Threshold Voltage



Single Pulse Power

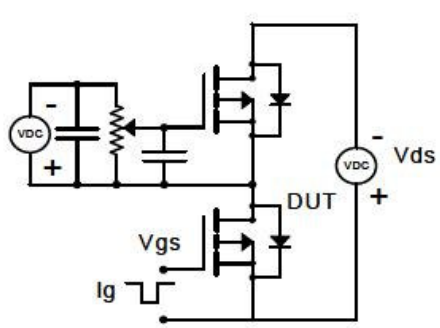


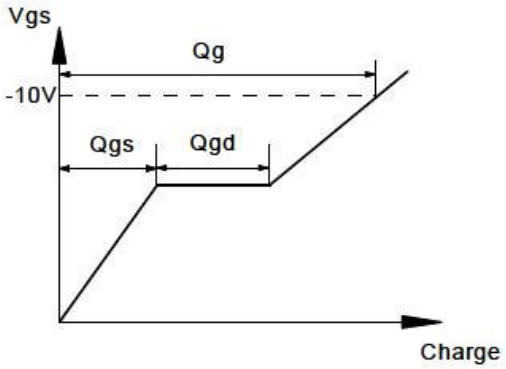
Normalized Thermal Transient Impedance, Junction-to-Ambient



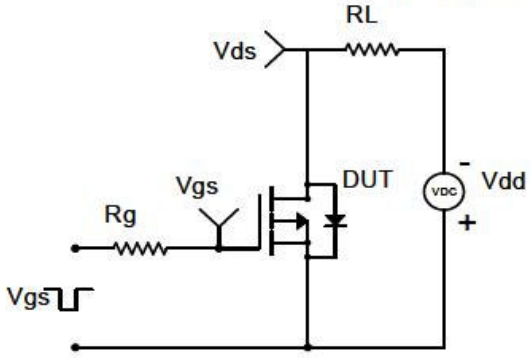
Typical Performance Characteristics (continue)

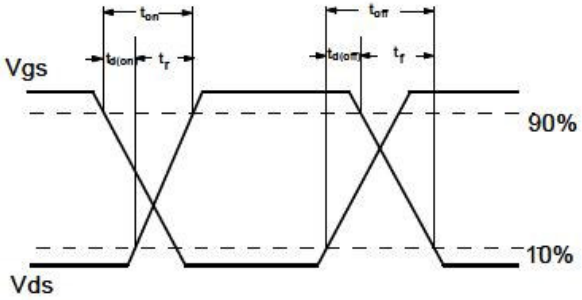
Gate Charge Test Circuit & Waveform



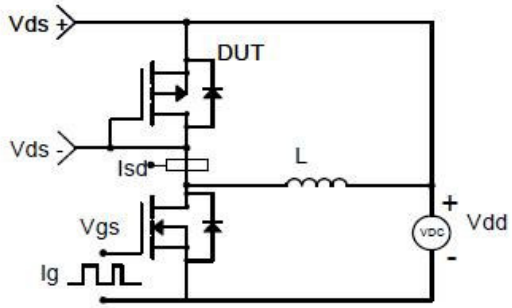


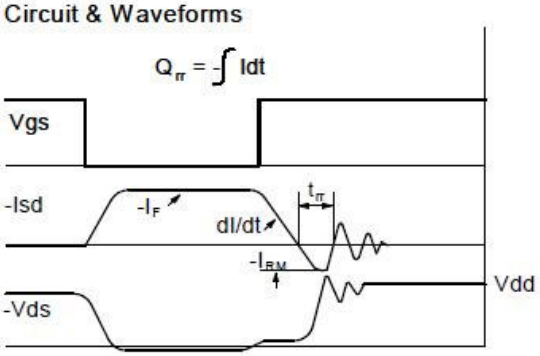
Resistive Switching Test Circuit & Waveforms





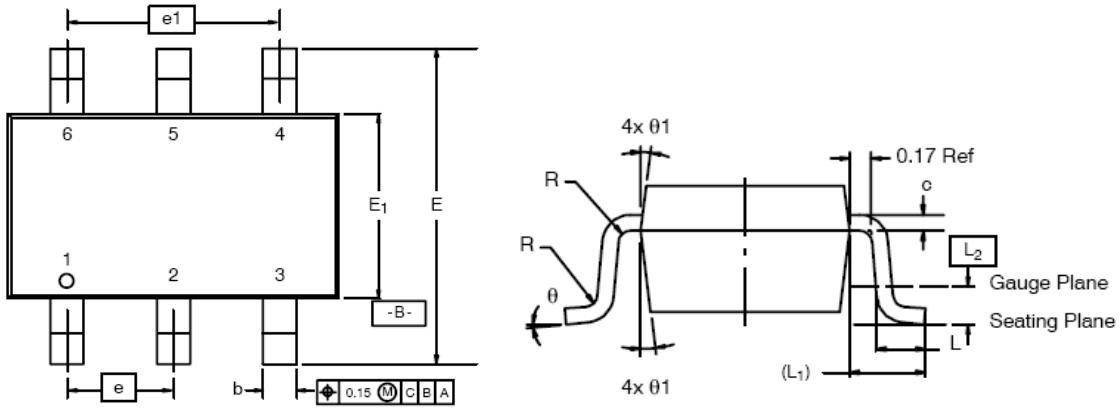
Diode Recovery Test Circuit & Waveforms





Package Dimension

TSOP-6



Symbol	Dimensions In Millimeters			Dimensions In Inches		
	Min	Nom	Max	Min	Nom	Max
A	0.91	-	1.10	0.036	-	0.043
A1	0.01	-	0.10	0.0004	-	0.004
A2	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
E1	1.55	1.65	1.70	0.061	0.065	0.067
e	1.00 BSC			0.0394 BSC		
e1	1.90	2.00	2.10	0.075	0.080	0.085
L	0.35	-	0.50	0.014	-	0.020
L1	0.60 Ref			0.024 Ref		
L2	0.25 BSC			0.010 BSC		
R	0.10	-	-	0.004	-	-
θ	0°	4°	8°	0°	4°	8°
θ1	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