GSM8473

60V P-Channel Enhancement Mode MOSFET

Product Description

GSM8473, 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, and low in-line power loss are needed in commercial industrial surface mount applications.

Features

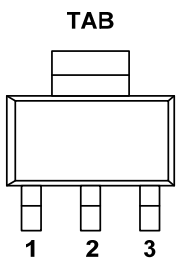
- -60V/-4.8A,$R_{DS(ON)}$=135mΩ@V_{GS}=-10V
- -60V/-3.6A,$R_{DS(ON)}$=155mΩ@V_{GS}=-4.5V
- Super high density cell design for extremely low $R_{DS\ (ON)}$
- SOT-223 package design

Applications

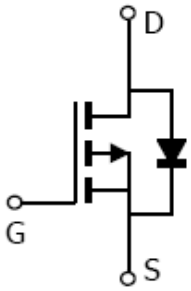
- Motor and Load Control
- LCD TV Inverter & AC/DC Inverter Systems.
- Backlight Inverter for LCD Display
- Load Switch
- CCFL Inverter

Packages & Pin Assignments

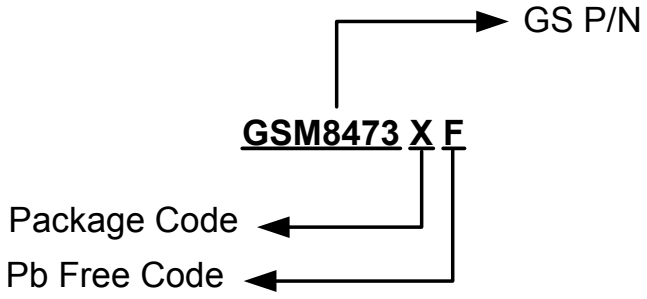
GSM8473 (SOT-223)



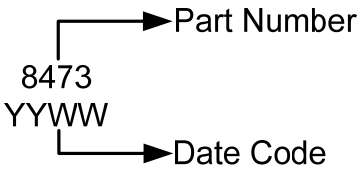
1	Gate
2	Drain
3	Source



Ordering Information



Marking Information



Part Number	Package	Part Marking	Quantity Reel
GSM8473XF	SOT-223	8473YYWW	2500PCS

Absolute Maximum Ratings

(T_A=25ºC Unless otherwise noted)

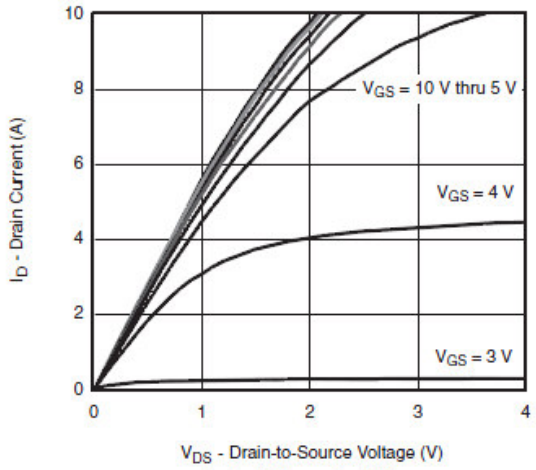
Symbol	Parameter		Typical	Unit
V_{DSS}	Drain-Source Voltage		-60	V
V_{GSS}	Gate –Source Voltage		±20	V
I_D	Continuous Drain Current(T_J=150℃)	T_A=25ºC	-4.8	A
		T_A=70ºC	-3.6	
I_{DM}	Pulsed Drain Current		-10	A
I_S	Continuous Source Current(Diode Conduction)		-1.6	A
P_D	Power Dissipation	T_A=25ºC	2.8	W
		T_A=70ºC	1.2	
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

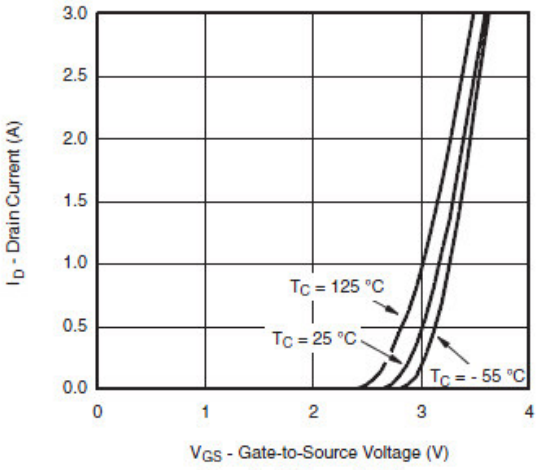
(T_A=25ºC Unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ	Max.	Unit
Static						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	V_{GS}=0V,I_D=-250uA	-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}=±12V			±100	nA
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}= -48V,V_{GS}=0V			-1	uA
		V_{DS}= -48V,V_{GS}=0V , T_J=85ºC			-30	
$I_{D(on)}$	On-State Drain Current	V_{DS}≦-5V,V_{GS} =-10V	-5			A
$R_{DS(on)}$	Drain-Source On-Resistance	V_{GS}=-10V,I_D=-4.8A		125	135	mΩ
		V_{GS}=-4.5V,I_D=-3.6A		135	155	
g_{FS}	Forward Transconductance	V_{DS}=-15V,I_D=-2.2A		5		S
V_{SD}	Diode Forward Voltage	I_S=-1.5A,V_{GS}=0V		-0.75	-1.3	V
Dynamic						
Q_g	Total Gate Charge	V_{DS}=-30V,V_{GS}=-4.5V, I_D≡-2.2A		5	10	nC
Q_{gs}	Gate-Source Charge			1.5		
Q_{gd}	Gate-Drain Charge			2.5		
C_{ISS}	Input Capacitance	V_{DS}=-30V,V_{GS}=0V f=1MHz		410		pF
C_{OSS}	Output Capacitance			45		
C_{RSS}	Reverse Transfer Capacitance			20		
$t_{d(on)}$	Turn-On Time	V_{DD}=-30V,R_L=16.7Ω I_D≡-1.8A,V_{GEN}=-10V R_G=1.0Ω		5	10	ns
t_r				15	25	
$t_{d(off)}$	Turn-Off Time			20	35	
t_f				10	20	

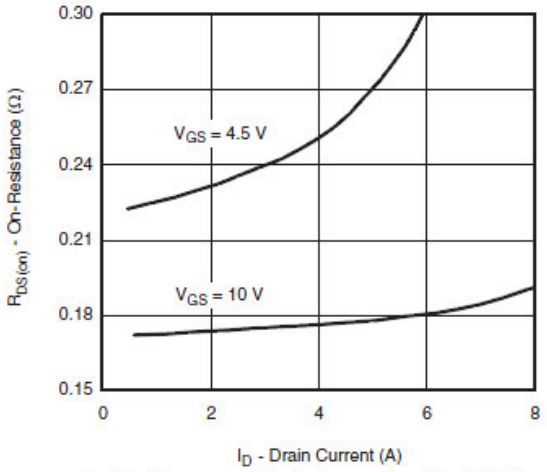
Typical Performance Characteristics



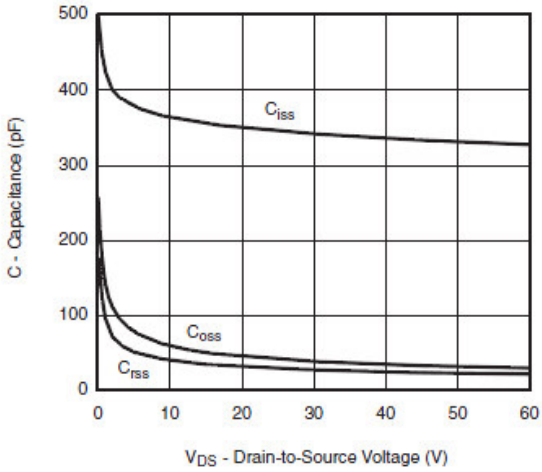
Output Characteristics



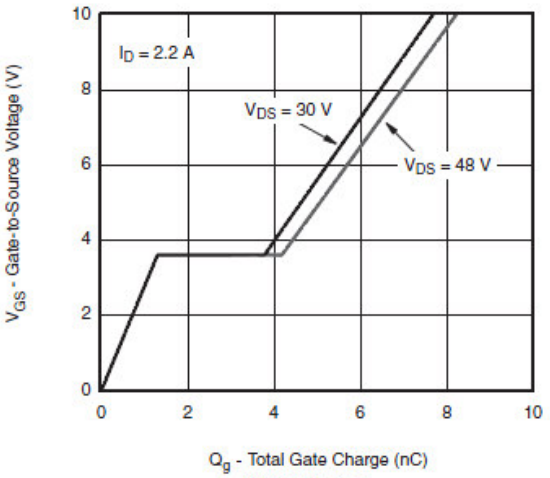
Transfer Characteristics



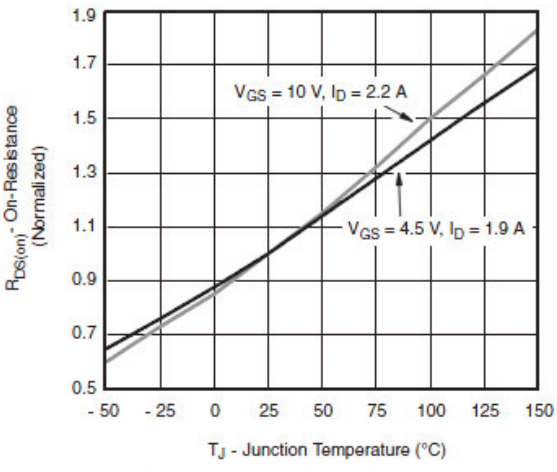
On-Resistance vs. Drain Current and Gate Voltage



Capacitance

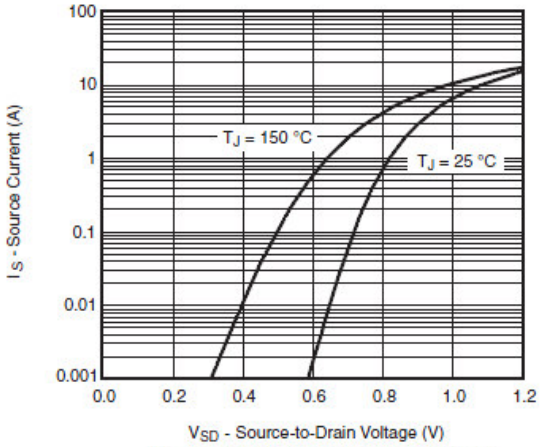


Gate Charge

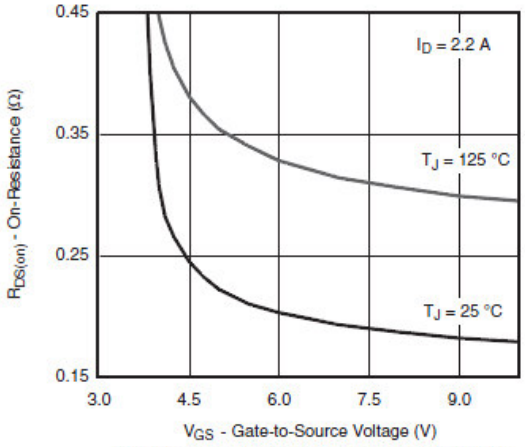


On-Resistance vs. Junction Temperature

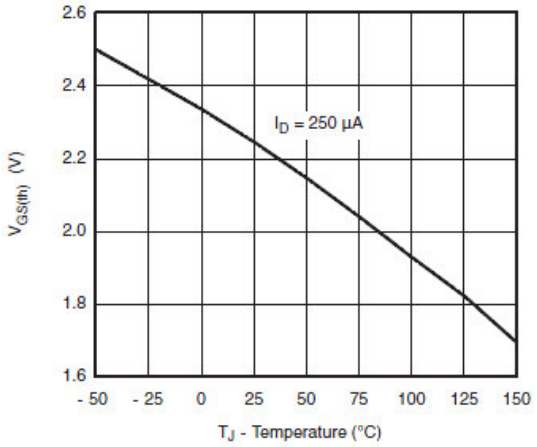
Typical Performance Characteristics(continue)



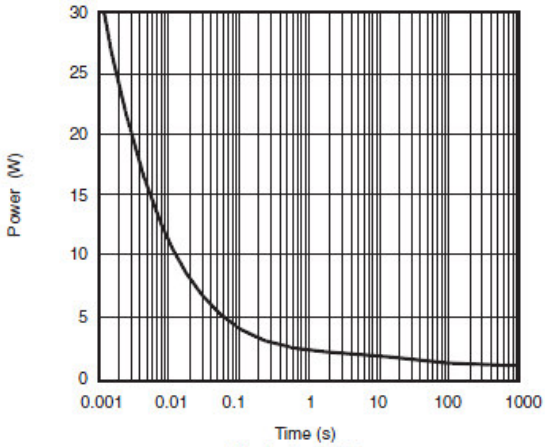
Source-Drain Diode Forward Voltage



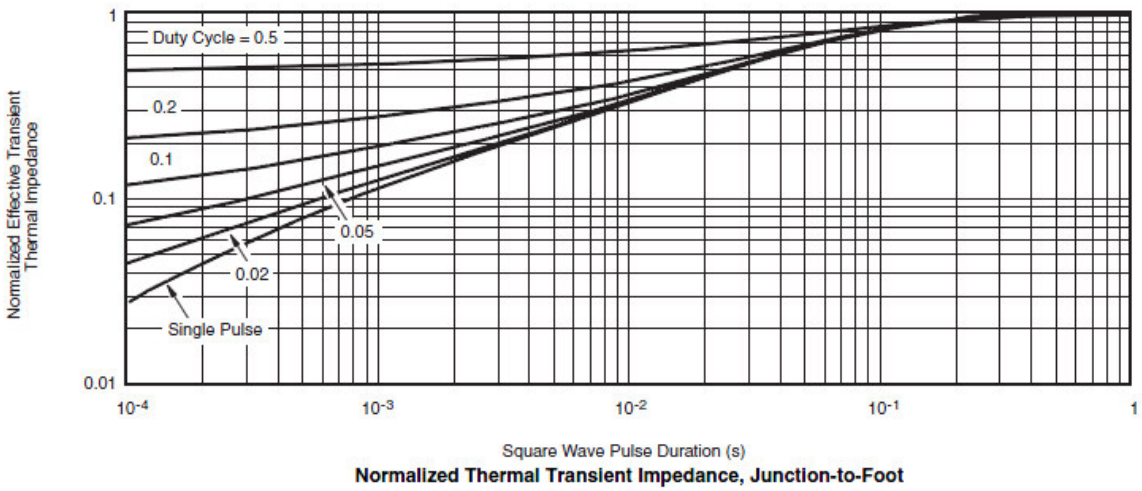
On-Resistance vs. Gate-to-Source Voltage



Threshold Voltage

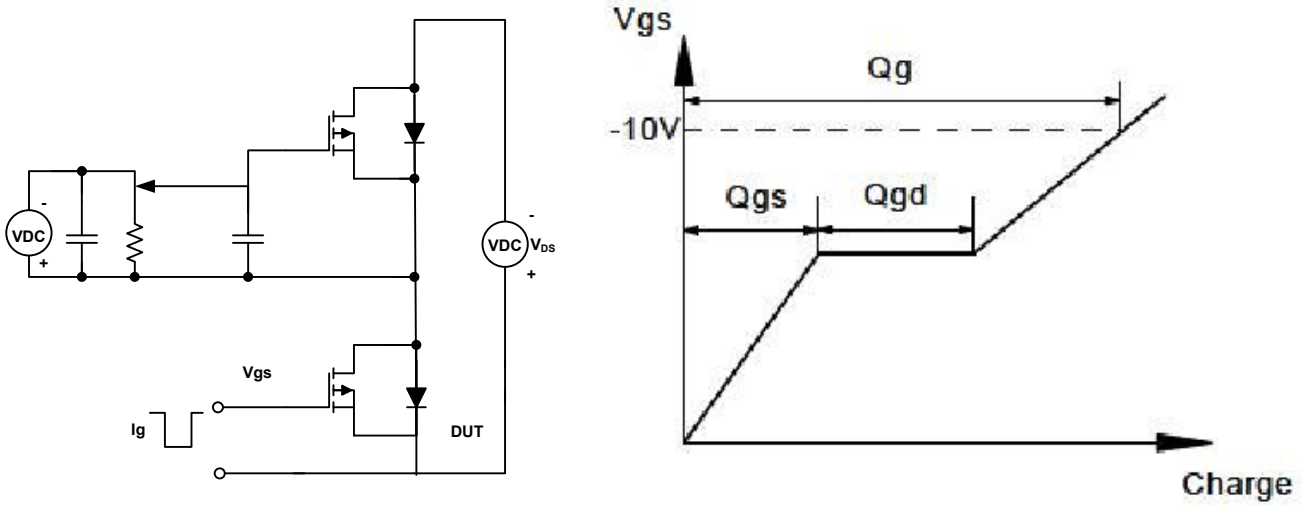


Single Pulse Power

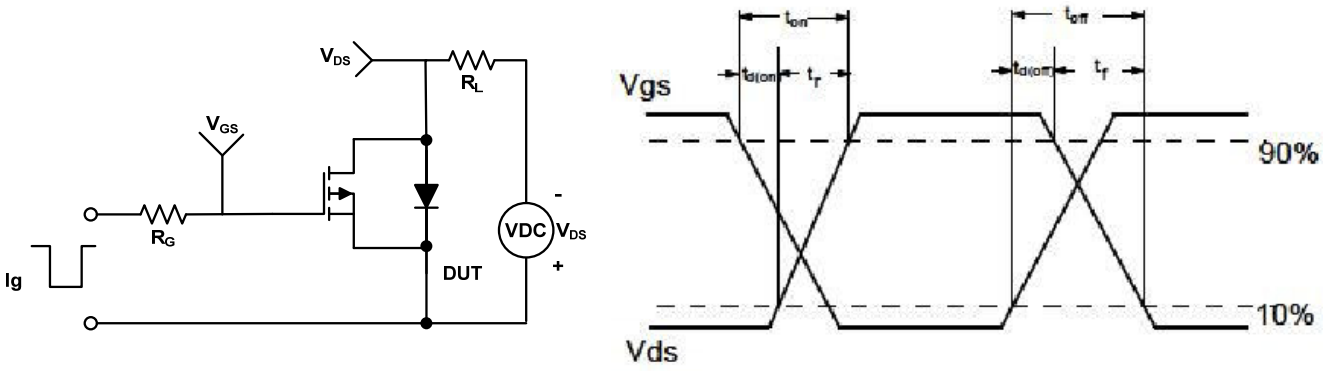


Normalized Thermal Transient Impedance, Junction-to-Foot

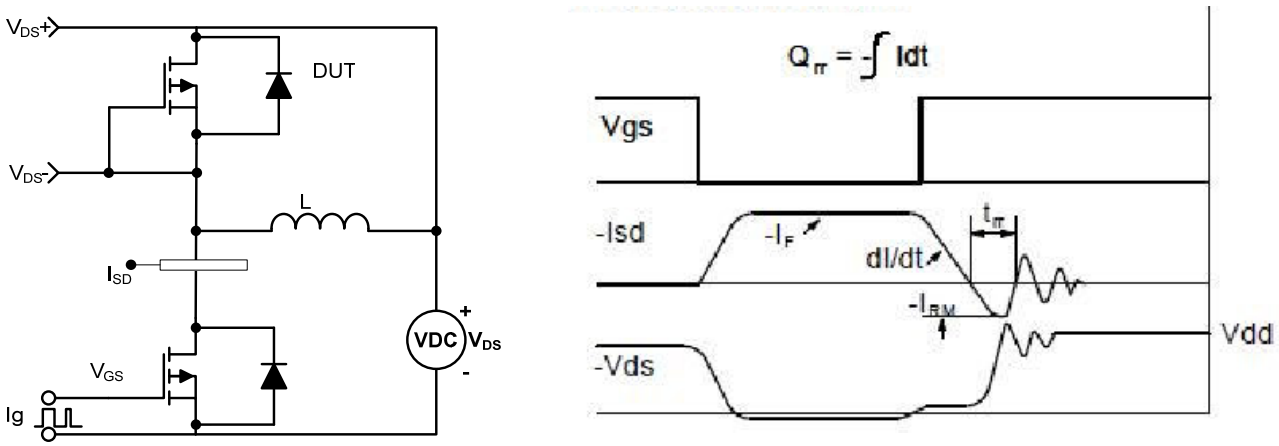
Typical Performance Characteristics(continue)



Resistive Switching Test Circuit & Waveforms

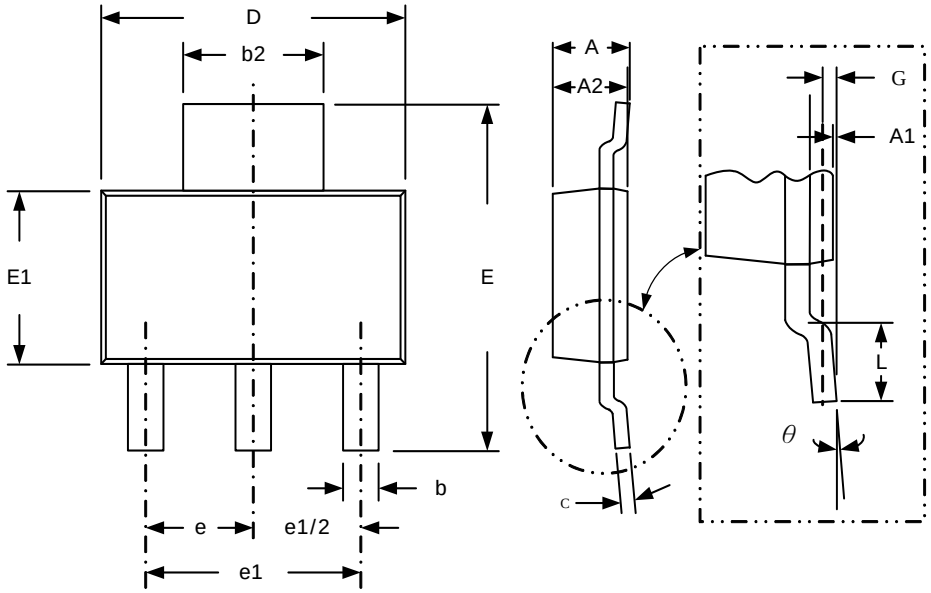


Unclamped Inductive Switching Test Circuit & Waveforms



Package Dimension

SOT-223 PLASTIC PACKAGE



Dimensions				
SYMBOL	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	-	1.80	-	.071
A1	0.02	0.10	.001	.004
A2	1.55	1.65	.061	.065
b	0.66	0.84	.026	.033
b2	2.90	3.10	.114	.122
c	0.23	0.33	.009	.013
D	6.30	6.70	.248	.264
E	6.70	7.30	.264	.288
E1	3.30	3.70	.130	.146
e	2.30 (TYP)		.091 (TYP)	
e1	4.60 (TYP)		.181 (TYP)	
L	0.90	-	.035	-
G	0.25 (TYP)		.010 (TYP)	
θ	0°	8°	0°	8°

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