



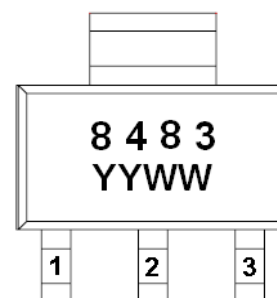
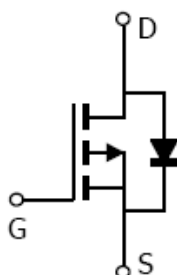
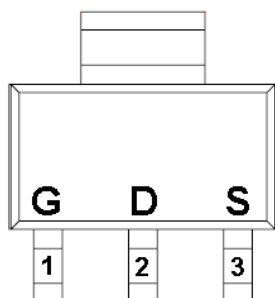
General Description

AFP8483, 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

- -100V/-3.8A, $R_{DS(ON)} = 260m\Omega @ V_{GS} = -10V$
- -100V/-2.6A, $R_{DS(ON)} = 290m\Omega @ V_{GS} = -4.5V$
- Super high density cell design for extremely low $R_{DS(ON)}$
- SOT-223 package design

Pin Description (SOT-223)



Application

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

Pin Define

Pin	Symbol	Description
1	G	Gate
2	D	Drain
3	S	Source

Ordering Information

Part Ordering No.	Part Marking	Package	Unit	Quantity
AFP8483S223RG	8483	SOT-223	Tape & Reel	2500 EA

- ※ YY year code
- ※ WW week code
- ※ AFP8483S223RG : 13" Tape & Reel ; Pb- Free ; Halogen -Free



Absolute Maximum Ratings

($T_A=25^\circ\text{C}$ Unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-100	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current($T_J=150^\circ\text{C}$)	I_D	$T_A=25^\circ\text{C}$	-3.8
		$T_A=70^\circ\text{C}$	-2.6
Pulsed Drain Current	I_{DM}	-15	A
Continuous Source Current(Diode Conduction)	I_S	-5	A
Power Dissipation	P_D	$T_A=25^\circ\text{C}$	2.8
		$T_A=70^\circ\text{C}$	1.2
Operating Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55/150	$^\circ\text{C}$
Thermal Resistance-Junction to Ambient	$R_{\theta JA}$	120	$^\circ\text{C/W}$

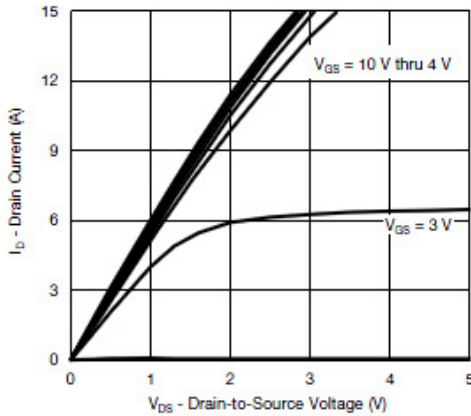
Electrical Characteristics

($T_A=25^\circ\text{C}$ Unless otherwise noted)

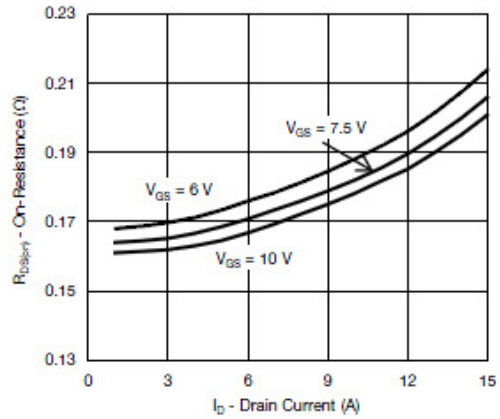
Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DS}$	$V_{GS}=0V, I_D = -250\mu\text{A}$	-100			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D = -250\mu\text{A}$	-1.0		-2.5	
Gate Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS} = \pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -80V, V_{GS} = 0V$			-1	uA
		$V_{DS} = -80V, V_{GS} = 0V$ $T_J = 85^\circ\text{C}$			-30	
On-State Drain Current	$I_{D(on)}$	$V_{DS} \geq -10V, V_{GS} = -10V$	-8			A
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -3.8A$		235	260	m Ω
		$V_{GS} = -4.5V, I_D = -2.6A$		255	290	
Forward Transconductance	g_{FS}	$V_{DS} = -15V, I_D = -3.2A$		12		S
Diode Forward Voltage	V_{SD}	$I_S = -2A, V_{GS} = 0V$		-0.8	-1.3	V
Dynamic						
Total Gate Charge	Q_g	$V_{DS} = -50V, V_{GS} = -4.5V$ $I_D = -2.6A$		12	20	nC
Gate-Source Charge	Q_{gs}			3.0		
Gate-Drain Charge	Q_{gd}			4.5		
Input Capacitance	C_{iss}	$V_{DS} = -50V, V_{GS} = 0V$ $f = 1\text{MHz}$		1100		pF
Output Capacitance	C_{oss}			70		
Reverse Transfer Capacitance	C_{rss}			45		
Turn-On Time	$t_{d(on)}$	$V_{DD} = -50V, R_L = 17\Omega$ $I_D = -2.6A, V_{GEN} = -10V$ $R_G = 1\Omega$		8	15	ns
	t_r			15	20	
Turn-Off Time	$t_{d(off)}$			35	50	
	t_f			10	25	



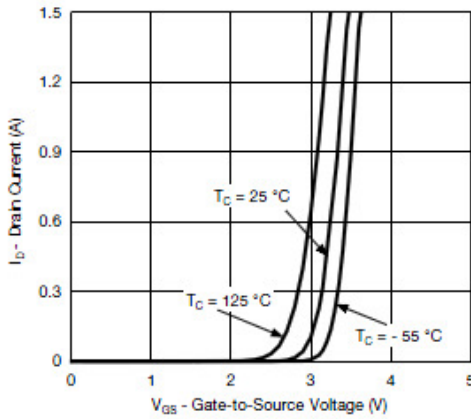
Typical Characteristics



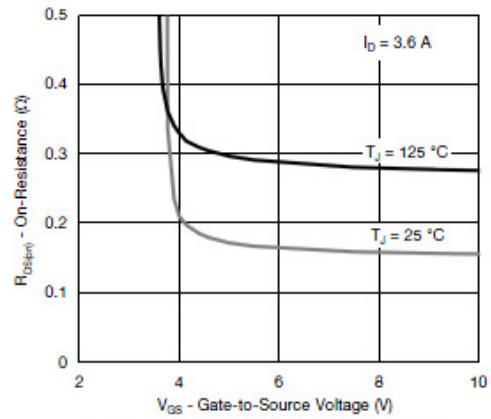
Output Characteristics



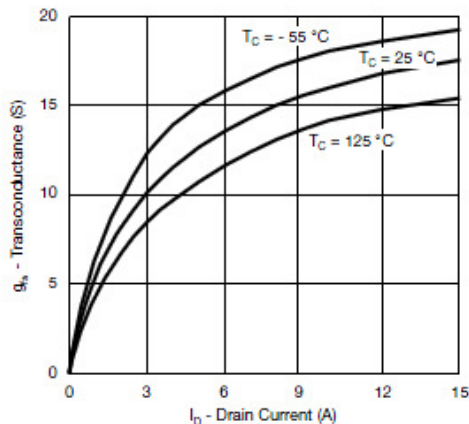
On-Resistance vs. Drain Current



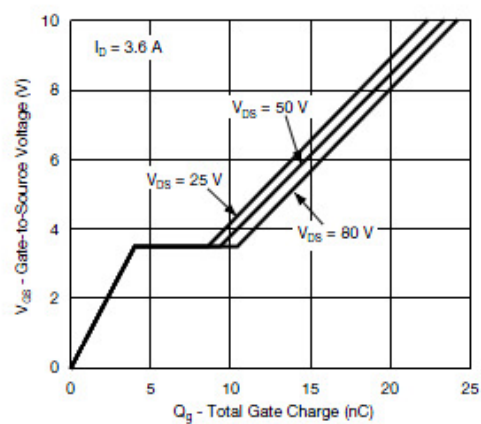
Transfer Characteristics



On-Resistance vs. Gate-to-Source Voltage



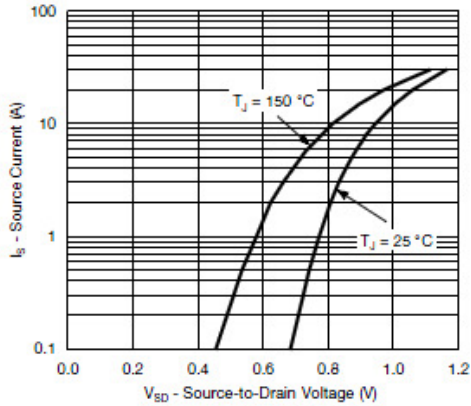
Transconductance



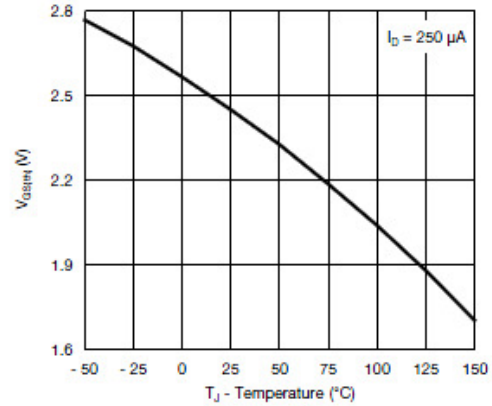
Gate Charge



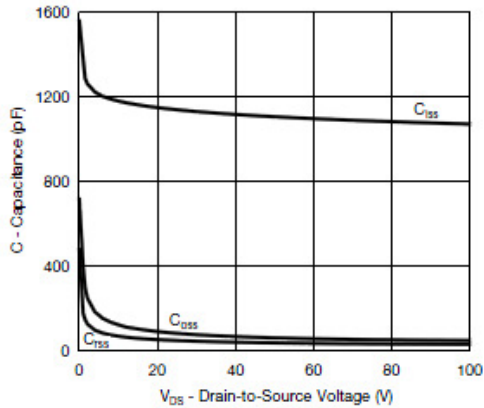
Typical Characteristics



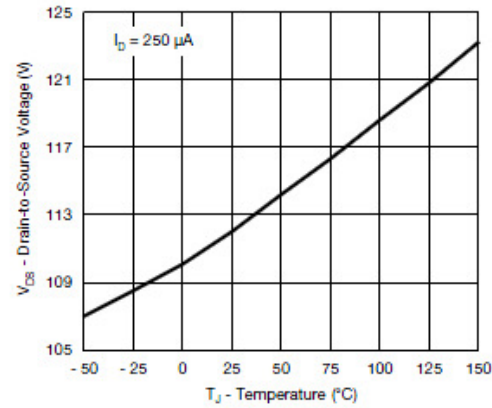
Source-Drain Diode Forward Voltage



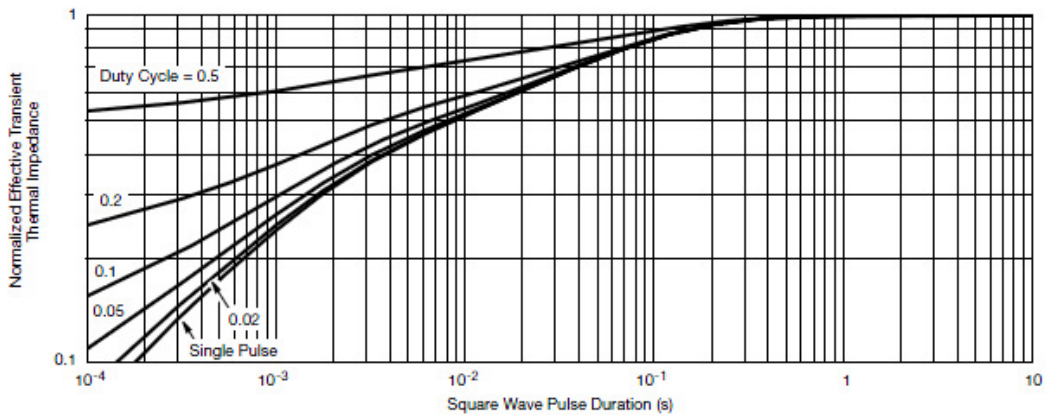
Threshold Voltage



Capacitance



Drain Source Breakdown vs. Junction Temperature

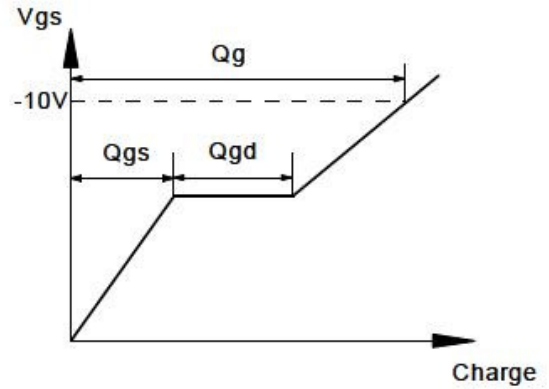
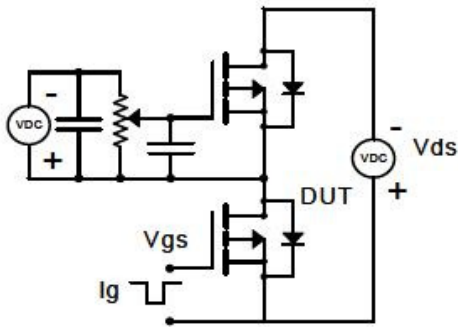


Normalized Thermal Transient Impedance, Junction-to-Case

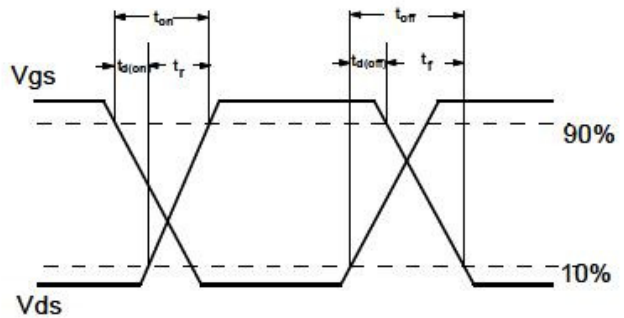
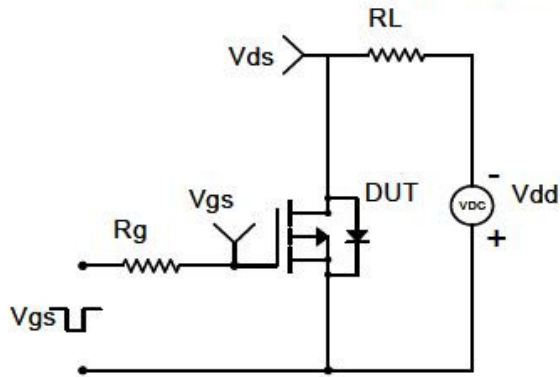


Typical Characteristics

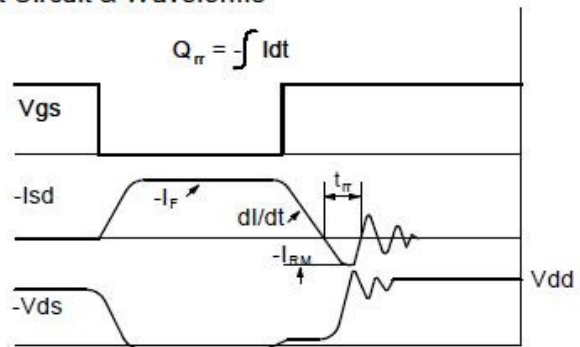
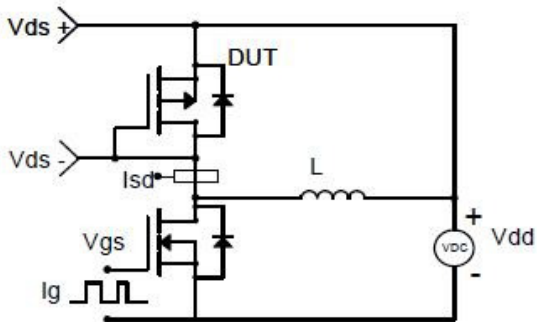
Gate Charge Test Circuit & Waveform



Resistive Switching Test Circuit & Waveforms

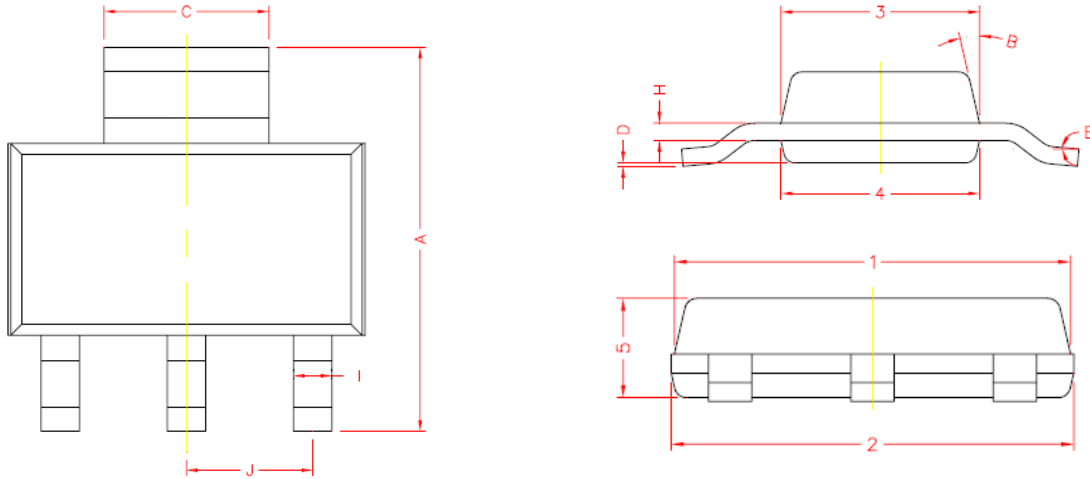


Diode Recovery Test Circuit & Waveforms





Package Information (SOT-223)



REF.	DIMENSIONS	
	Millimeters	
	Min.	Max.
A	6.70	7.30
C	2.90	3.10
D	0.02	0.10
E	0°	10°
I	0.60	0.80
H	0.25	0.35
B	13° TYP.	
J	2.30 REF.	
1	6.30	6.70
2	6.30	6.70
3	3.30	3.70
4	3.30	3.70
5	1.40	1.80

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