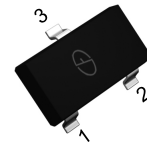


P-Channel -30V (D-S) Power MOSFET

Features

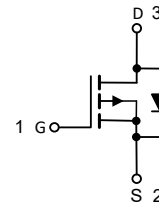
- 100% Avalanche Tested
- Halogen Free, Pb-Free
- RoHS Compliant



SOT-23

Applications

- Relay driver
- Switching circuits
- High-side load switch
- High-speed line driver



Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)				
Parameter	Symbol	Value	Unit	
Drain Source Voltage	V_{DS}	-30	V	
Gate Source Voltage	V_{GS}	± 12	V	
Drain Current, Continuous $V_{GS}=10\text{V}$	I_D	$T_C=25^{\circ}\text{C}$	-4.2	A
		$T_C=70^{\circ}\text{C}$	-3.5	
Drain Current, Pulsed (<i>Note 1</i>)	I_{DM}	-30	A	
Power Dissipation		$T_C=25^{\circ}\text{C}$	P_D	1.4
Operating Junction/ Storage Temperature Range	T_J/ T_{STG}	-55 to +150	°C	

Note 1: Single pulse; $t_p \leq 1\mu\text{s}$.

Thermal Characteristics			
Parameter	Symbol	Max	Unit
Thermal Resistance Junction to Ambient (<i>Note 2</i>)	R_{thJA}	90	°C/W

Note 2: Device mounted on 1 square inch FR4 PCB board, with 2oz single-sided copper, in a 25°C still air environment.

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-30	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-24V, V_{GS}=0V$	--	--	-1	μA
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS}=V_{GS}, I_{DS}=-250\mu A$	-0.7	--	-1.3	V
Gate Leakage Current	I_{GSS}	$V_{GS}=\pm 12V, V_{DS}=0V$	--	--	± 100	nA
Drain-Source On-state Resistance (Note 3)	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-4.2A$	--	39	50	m Ω
		$V_{GS}=-4.5V, I_D=-4A$	--	48	65	
Total Gate Charge	Q_g	$V_{DS}=-25V, V_{GS}=-10V, I_D=-4A$	--	18	--	nC
Gate-Source Charge	Q_{gs}		--	2.1	--	
Gate-Drain Charge	Q_{gd}		--	2.7	--	
Turn-on Delay Time	$t_{d(on)}$	$V_{GS}=-10V, V_{DD}=-15V, R_G=3\Omega$	--	7.5	--	ns
Turn-on Rise Time	t_r		--	15	--	
Turn-off Delay Time	$t_{d(off)}$		--	26	--	
Turn-off Fall Time	t_f		--	3.7	--	
Input Capacitance	C_{iss}	$V_{GS}=0V, V_{DS}=-15V, f=1MHz$	--	712	--	pF
Output Capacitance	C_{oss}		--	82	--	
Reverse Transfer Capacitance	C_{rss}		--	67	--	

Reverse Diode Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Forward Current, Continuous	I_{SD}	$T_C=25^\circ\text{C}$	--	--	-4.2	A
Diode Forward Voltage (Note 3)	V_{SD}	$I_F=-1A, V_{GS}=0V$	--	-0.78	-1.0	V

Note 3: Pulse test; pulse width $\leq 380\mu s$, duty cycle $\leq 1\%$.

Typical Characteristics Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig.1 - Typical Output Characteristics

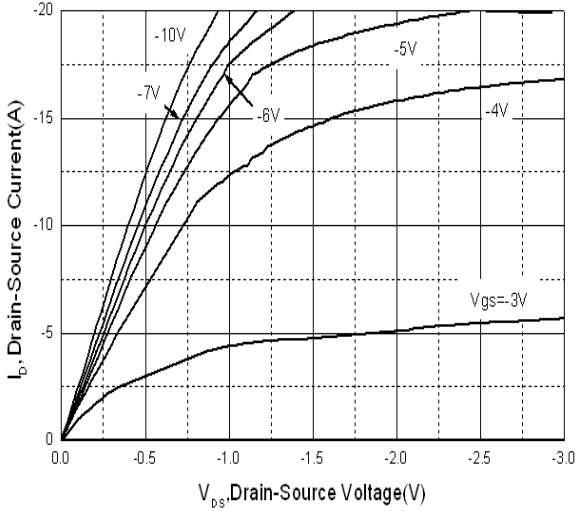


Fig.2 - $V_{GS(th)}$ vs. Junction Temperature

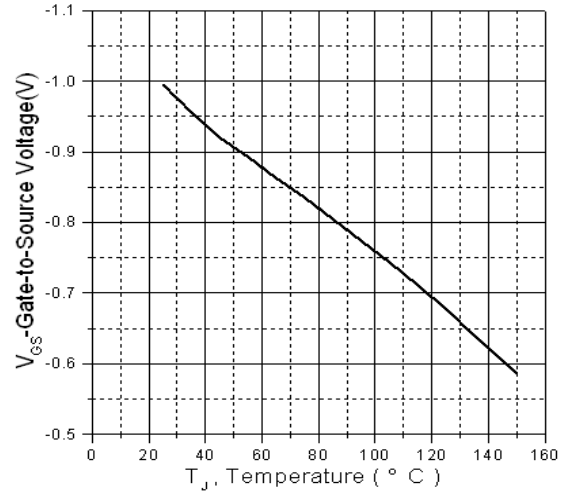


Fig.3 - Drain-to-Source Breakdown Voltage vs. Junction Temperature

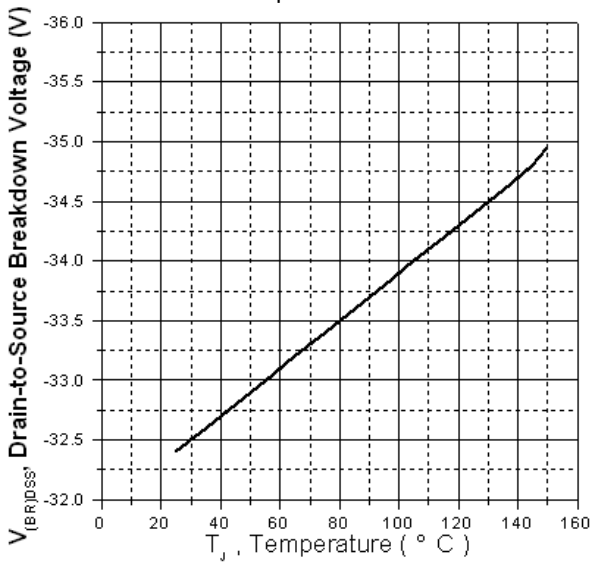


Fig.4 - $R_{DS(on)}$ vs. Junction Temperature

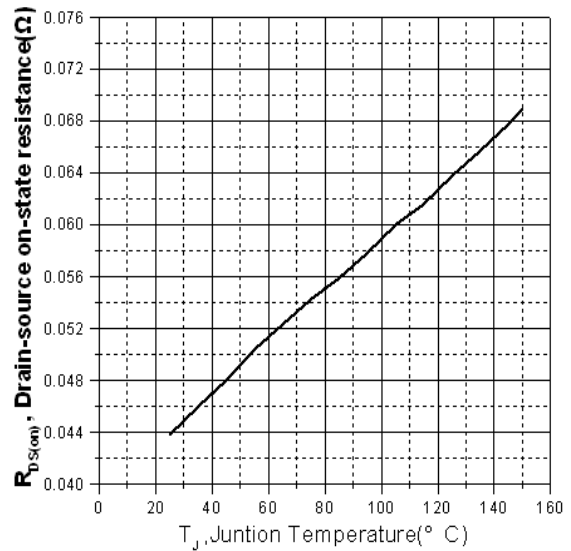


Fig.5 - Maximum Drain Current vs. Case Temperature

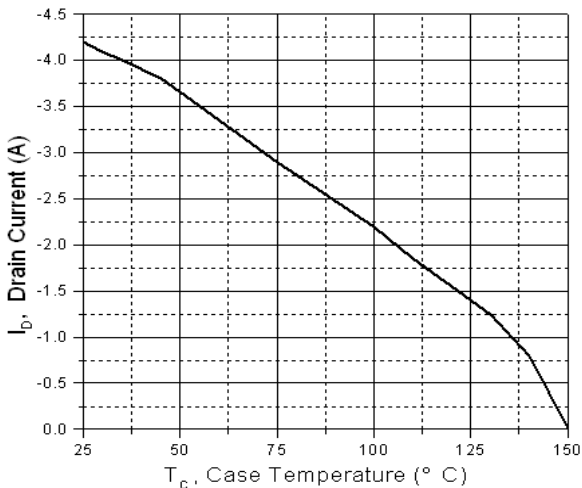
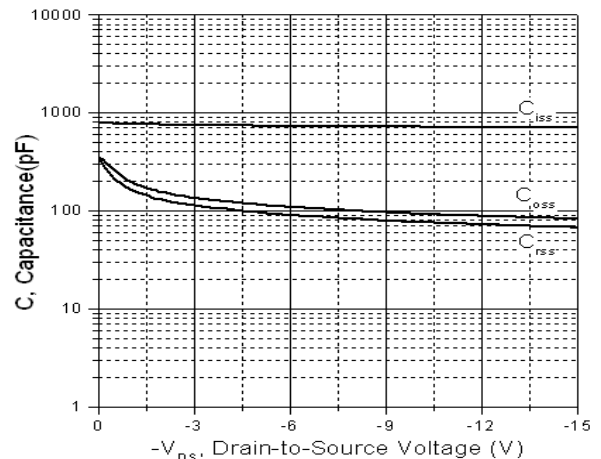
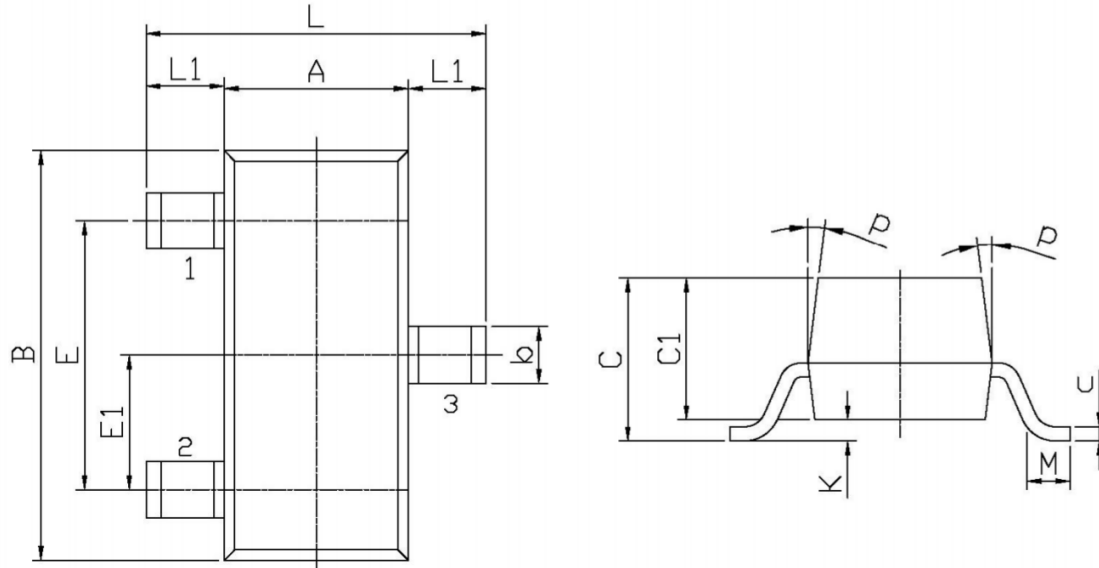


Fig.6 - Typical Capacitance vs. Drain-to-Source Voltage



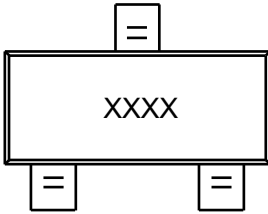
Package Outline Dimensions (Unit: millimeters)

SOT-23



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
L	2.2	2.7	C	1.30Max	
L1	0.45	0.65	C1	0.90	1.20
A	1.15	1.50	c	0.05	0.20
B	2.70	3.10	K	0	0.10
E	1.70	2.10	M	0.20MIN	
E1	0.85	1.05	P	7°	
b	0.35	0.55			

Marking Outline



Part Name: GMP3341

1. P/N Mark: 3341

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