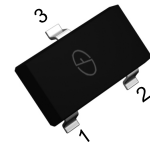


P-Channel -30V (D-S) Power MOSFET

Features

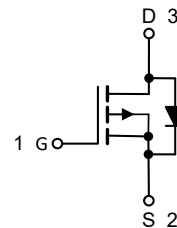
- 100% Avalanche Tested
- Halogen Free, Pb-Free
- RoHS Compliant



SOT23-3

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}	± 20	V	
Drain Current, Continuous $V_{GS}=-10\text{V}$	I_D	$T_C=25^\circ\text{C}$	-6	A
		$T_C=70^\circ\text{C}$	-5	
Drain Current, Pulsed (Note 1)	I_{DM}	-30	A	
Power Dissipation	P_D	2	W	
Operating Junction/ Storage Temperature Range	T_J/ T_{STG}	-55 to +150	$^\circ\text{C}$	

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

Thermal Characteristics

Parameter	Symbol	Max	Unit
Thermal Resistance Junction to Ambient (Note 2)	R_{thJA}	62.5	$^\circ\text{C/W}$

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°C unless otherwise noted)						
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =-250μA	-30	--	--	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-30V, V _{GS} =0V	--	--	-1	uA
Gate Threshold Voltage	V _{GS(TH)}	V _{DS} =V _{GS} , I _{DS} =-250uA	-1.2	--	-2.5	V
Gate Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V	--	--	±100	nA
Drain-Source On-state Resistance (Note 3)	R _{DS(on)}	V _{GS} =-10V, I _D =-5.4A	--	22	30	mΩ
		V _{GS} =-4.5V, I _D =-4.6A	--	33	40	
Total Gate Charge	Q _g	V _{GS(off)} =0V, V _{GS(on)} =-4.5V, V _{DS} =-15V, I _D =-6A	--	10	--	nC
Gate-Source Charge	Q _{gs}		--	3	--	
Gate-Drain Charge	Q _{gd}		--	4	--	
Turn-on Delay Time	t _{d(on)}	V _{GS} =-10V, V _{DS} =-15V, R _G =3Ω R _L =2.7Ω	--	10.5	--	ns
Turn-on Rise Time	t _r		--	5.4	--	
Turn-off Delay Time	t _{d(off)}		--	25	--	
Turn-off Fall Time	t _f		--	8.5	--	
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =-25V, f=1MHz	--	1300	--	pF
Output Capacitance	C _{oss}		--	150	--	
Reverse Transfer Capacitance	C _{rss}		--	132	--	

Reverse Diode Characteristics (T _A =25°C unless otherwise noted)						
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Forward Current, Continuous	I _{SD}	T _C =25°C	--	--	-6	A
Diode Forward Voltage (Note 3)	V _{SD}	I _F =-4.3A, V _{GS} =0V	--	--	-1.2	V

Note 3: Pulse test; pulse width ≤ 380μs, duty cycle ≤ 1%.

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

Fig.1 - Output Characteristics

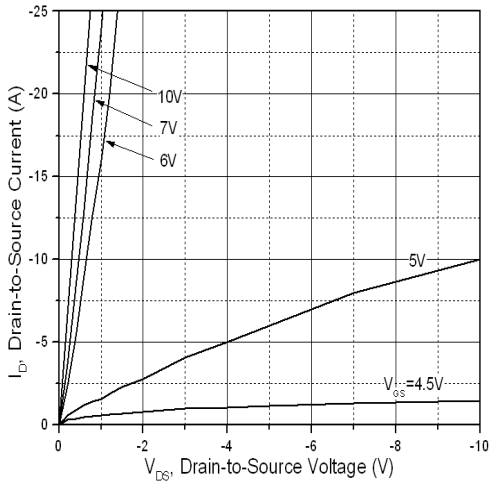


Fig.2 - Gate to Source Cut-off Voltage

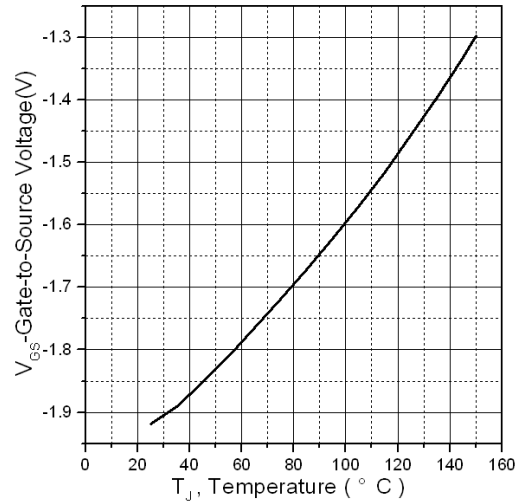


Fig.3 - $V_{(BR)DSS}$ vs. Junction Temperature

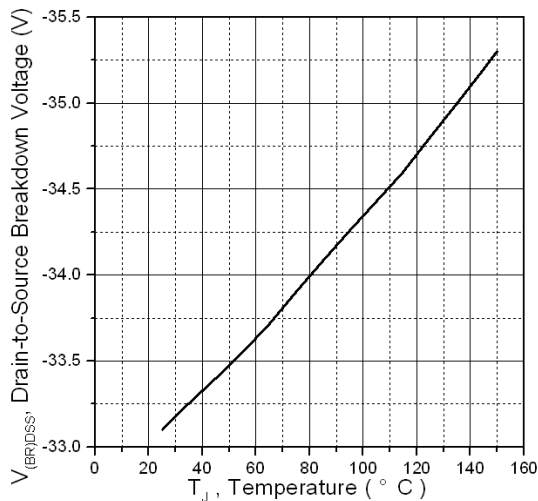


Fig.4 - On-Resistance vs. Junction Temperature

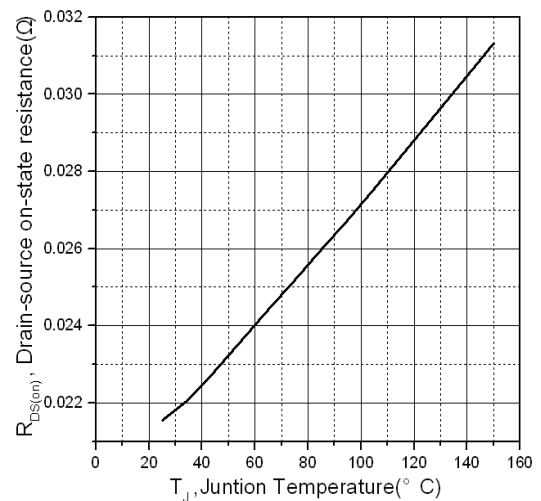
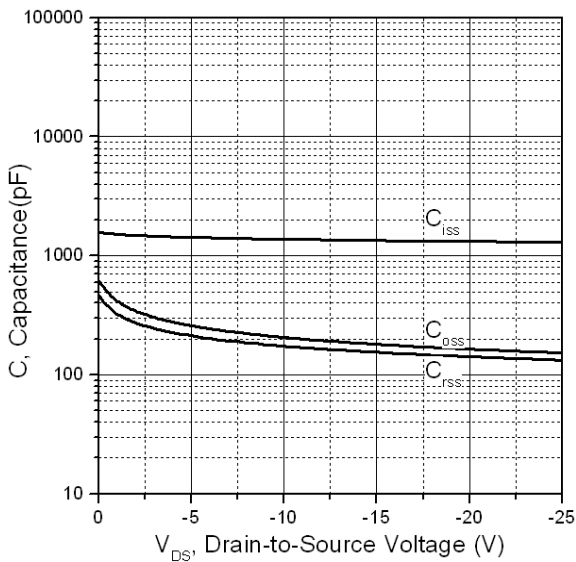
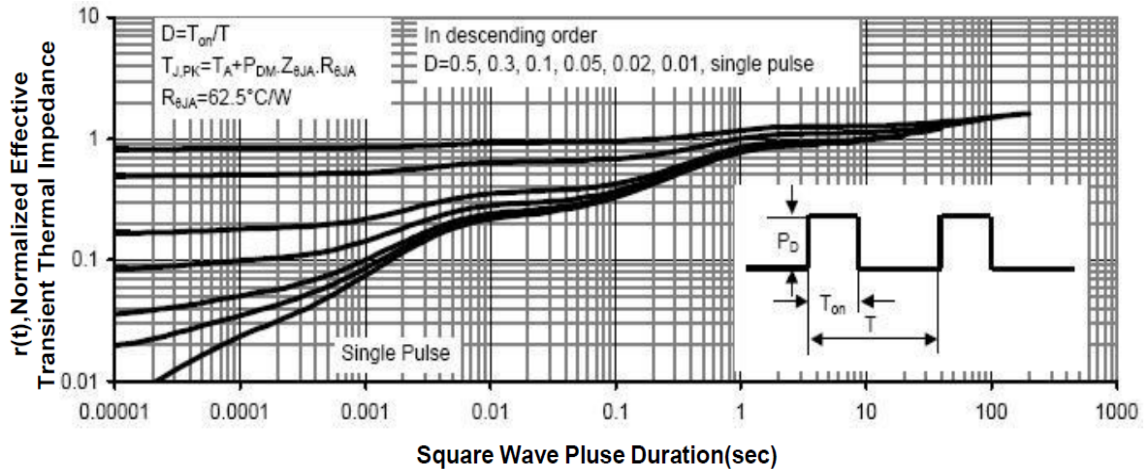


Fig.5 - Capacitance



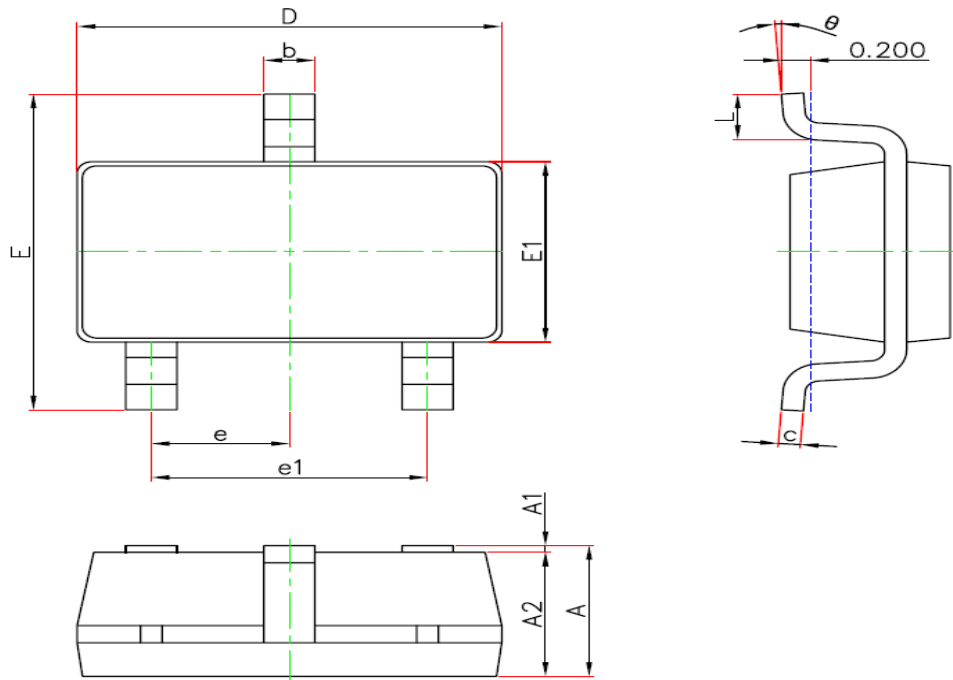
Typical Characteristics Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig.6 - Maximum Effective Transient Thermal Impedance



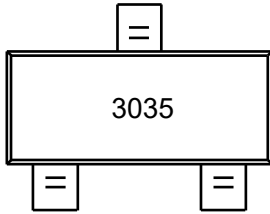
Package Outline Dimensions (Unit: millimeters)

SOT23-3



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

Marking Outline



Part Name: GMP3035L

1. P/N Mark: 3035

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