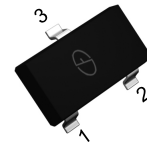


P-Channel -50V (D-S) Power MOSFET

Features

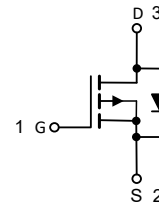
- 100% Avalanche Tested
- Halogen Free, Pb-Free
- RoHS Compliant



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}	-50	V
Gate Source Voltage		V_{GS}	± 20	V
Drain Current, Continuous $V_{GS}=-10\text{V}$	$T_C=25^\circ\text{C}$	I_D	-130	A
	$T_C=100^\circ\text{C}$		-100	
Drain Current, Pulsed (Note 1)		I_{DM}	-520	A
Power Dissipation	$T_C=25^\circ\text{C}$	P_D	230	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}	540	$^\circ\text{C/W}$

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

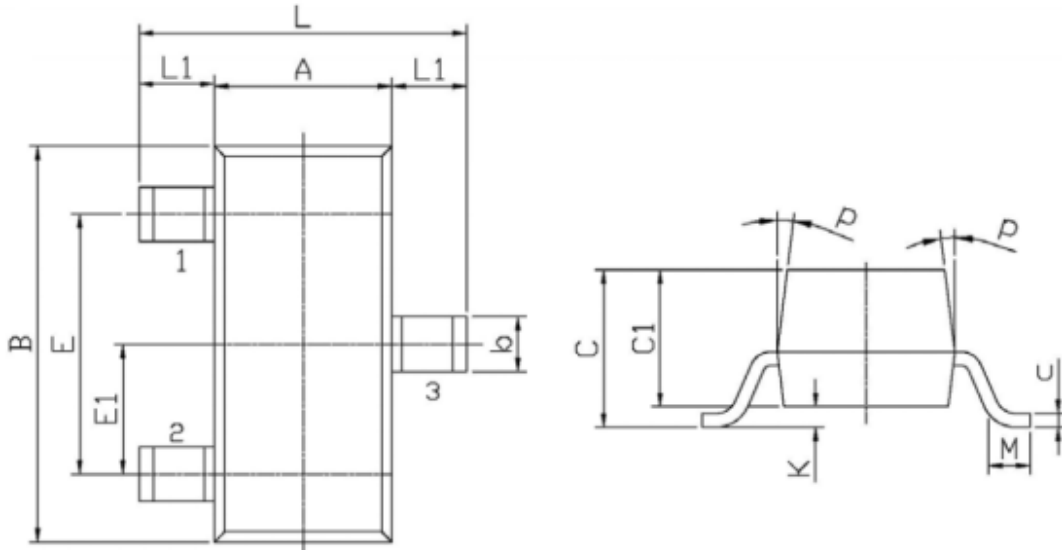
Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-50	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-50V, V_{GS}=0V$	--	--	-1	μA
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS}=V_{GS}, I_{DS}=-250\mu A$	-0.8	--	-2	V
Gate Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	--	--	± 10	nA
Drain-Source On-state Resistance (Note 3)	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-130mA$	--	2.1	7	Ω
Turn-on Delay Time	$t_{d(on)}$	$I_D=-2.5V, V_{DD}=-15V, R_L=50\Omega$	--	3.1	--	ns
Turn-on Rise Time	t_r		--	1.3	--	
Turn-off Delay Time	$t_{d(off)}$		--	18	--	
Turn-off Fall Time	t_f		--	7.5	--	
Input Capacitance	C_{iss}	$V_{GS}=0V, V_{DS}=-30V, f=1MHz$	--	30	--	pF
Output Capacitance	C_{oss}		--	6	--	
Reverse Transfer Capacitance	C_{rss}		--	2.5	--	

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}	$T_C=25^\circ\text{C}$	--	--	-130	mA
Diode Forward Voltage (Note 3)	V_{SD}	$I_F=-130mA, V_{GS}=0V$	--	--	1.3	V

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

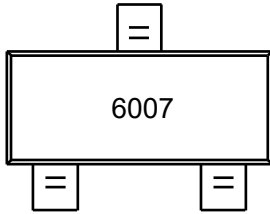
Package Outline Dimensions (Unit: millimeters)

SOT-23



Symbol	Dimensions in Millimeter		Symbol	Dimensions in Millimeter	
	Min	Max		Min	Max
L	2.2	2.7	C	1.30 Max	
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	0.20 Min	
E1	0.85	1.05	P	7°	
b	0.35	0.55			

Marking Outline



Part Name: GMP6007

1. P/N Mark: 6007

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