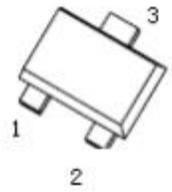
P-Channel MOSFET

Product Summary

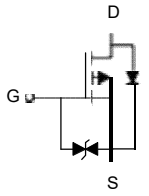
$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-20V	530mΩ@-4.5V	-0.66A
	750mΩ@-2.5V	
	1100mΩ@-1.8V	

SOT-523



1.Gate
2.Source
3.Dra

Schematic diagram



Feature

- Trench Technology Power MOSFET
- Low $R_{DS(ON)}$
- Low Gate Charge
- ESD Protected

Application

- Load Switching
- Low Current Inverters
- Low Current DC/DC Converters

ABSOLUTE MAXIMUM RATINGS (T_A = 25C unless otherwise noted)

Parameter		Symbol	Value	Unit
Drain - Source Voltage		V_{DS}	-20	V
Gate - Source Voltage		V_{GS}	±12	V
Continuous Drain Current[1,5]	T_A = 25C	I_D	-0.66	A
Pulsed Drain Current[2]		I_{DM}	-2.0	A
Power Dissipation[4,5]	T_A = 25C	P_D	0.2	W
Thermal Resistance from Junction to Ambient[5]		$R_{\theta JA}$	625	C/ W
Junction Temperature		T_J	150	C
Storage Temperature		T_{STG}	-55~ +150	C

P-Channel MOSFET

MOSFET ELECTRICAL CHARACTERISTICS (T_J = 25℃ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Off Characteristics						
Drain - Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = -250μA	-20			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = -16V, V_{GS} = 0V			-1	μA
Gate - Body Leakage Current	I_{GSS}	V_{GS} = ±10V, V_{DS} = 0V			±10	μA
On Characteristics[3]						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS} , I_D = -250μA	-0.4	-0.7	-1.0	V
Drain-source On-resistance	$R_{DS(on)}$	V_{GS} = -4.5V, I_D = -0.5A		530	790	mΩ
		V_{GS} = -2.5V, I_D = -0.3A		750	1000	
		V_{GS} = -1.8V, I_D = -0.12A		1100	1700	
Forward Transconductance	g_{FS}	V_{DS} = -5V, I_D = -0.4A		1		S
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS} = -10V, V_{GS} = 0V, f = 1MHz		79		pF
Output Capacitance	C_{oss}			15		
Reverse Transfer Capacitance	C_{rss}			13		
Switching Characteristics						
Total Gate Charge	Q_g	V_{DS} = -10V, V_{GS} = -4.5V, I_D = -0.2A		2.26		nC
Gate-source Charge	Q_{gs}			0.45		
Gate-drain Charge	Q_{gd}			0.24		
Turn-on Delay Time	$t_{d(on)}$	V_{DD} = -10V, V_{GS} = -4.5V, R_L = 50Ω , R_G = 3Ω		8		ns
Turn-on Rise Time	t_r			5.5		
Turn-off Delay Ttime	$t_{d(off)}$			30		
Turn-off Fall Time	t_f			17		
Source - Drain Diode Characteristics						
Diode Forward Voltage[3]	V_{SD}	V_{GS} = 0V, I_S = -0.5A			1.2	V

Notes :

1.The maximum current rating is limited by package.

2.Repetitive rating:pulse width limited by $T_{J(MAX)}$ = 150°C.

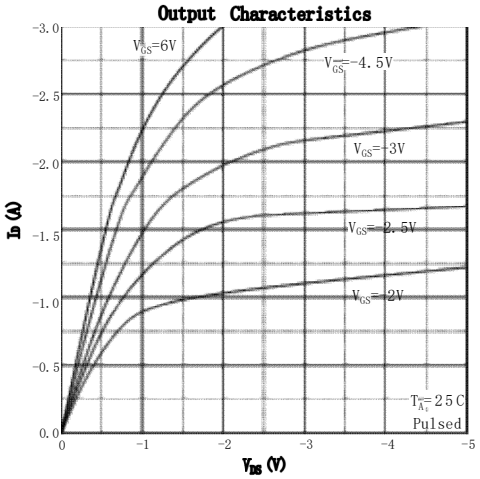
3.Pulse Test : Pulse Width ≤ 300μs, duty cycle ≤ 2%.

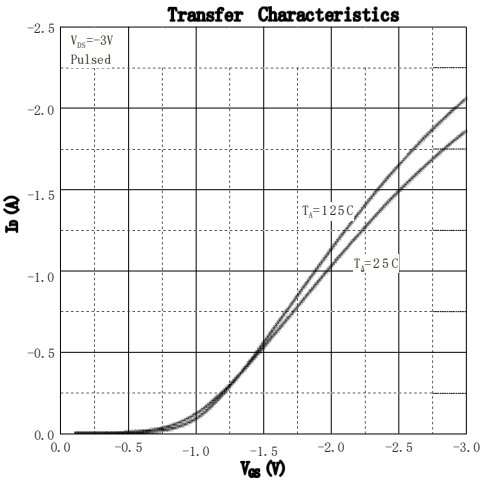
4.The power dissipation P_D is limited by $T_{J(MAX)}$ = 150°C.

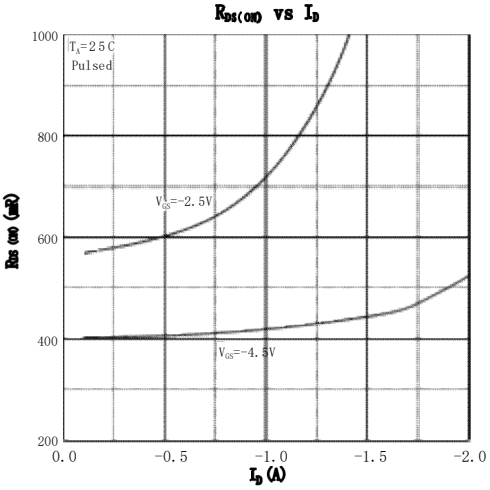
5.Device mounted on 1in^2 FR-4 board with 2oz. Copper, in a still air environment with T_A =25°C.

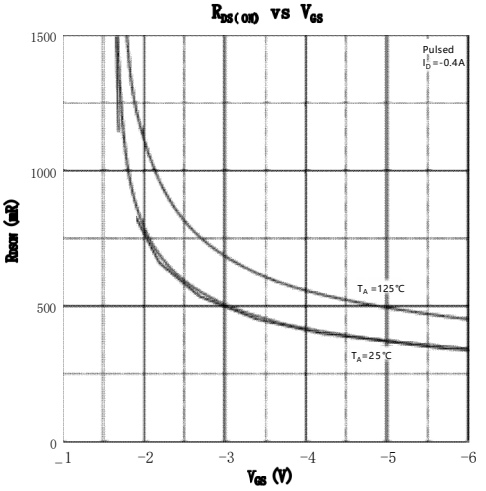
P-Channel MOSFET

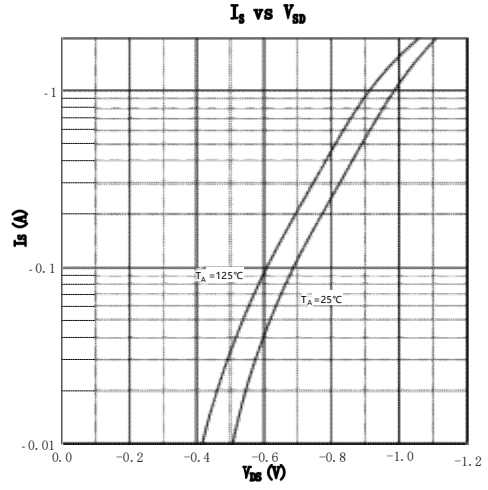
Typical Characteristics

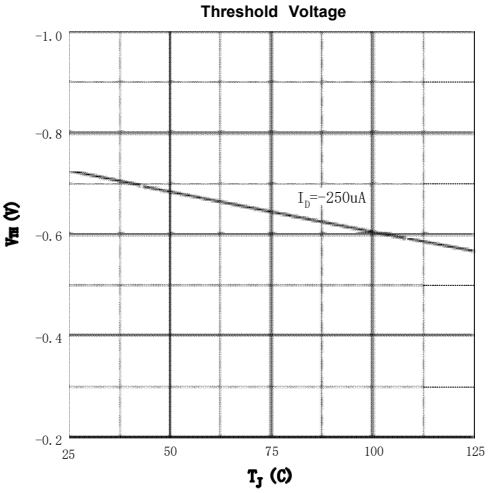






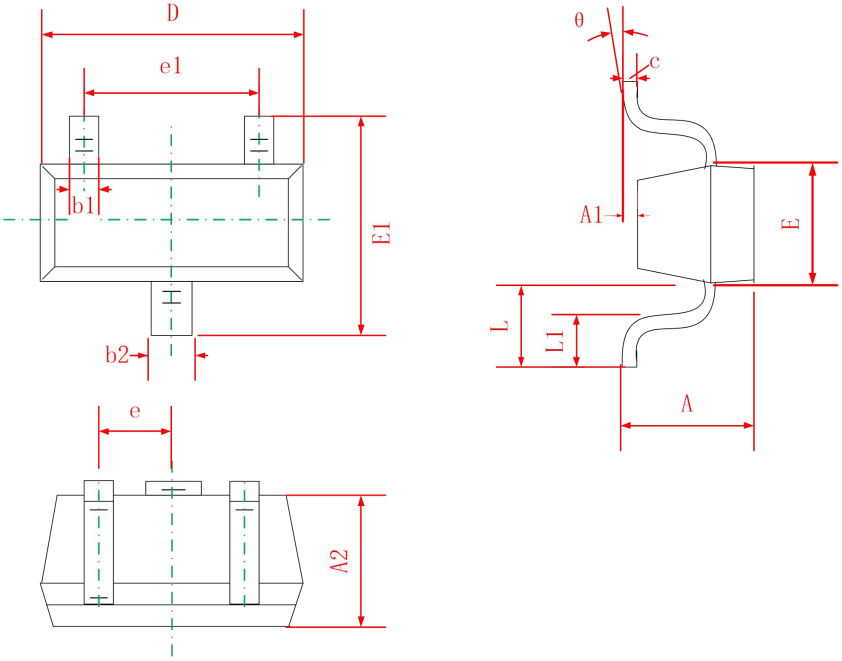






P-Channel MOSFET

SOT-523 Package Information



Symbol	Dimensions In Millimeters	
	Min	Max
A	0.700	0.900
A1	0.000	0.100
A2	0.700	0.800
b1	0.150	0.250
b2	0.250	0.350
C	0.100	0.200
D	1.500	1.700
E	0.700	0.900
E1	1.450	1.750
e	0.500 TYP	
e1	0.900	1.100
L	0.400 REF	
L1	0.260	0.460
θ	0°	8°

SOT-523 Suggested Pad Layout

