

30V P-Channel Enhancement Mode MOSFET

$V_{DS} = -30V$

$R_{DS(ON)}, V_{GS}@-10V, I_{DS}@ 4.1A < 64.5m\Omega$

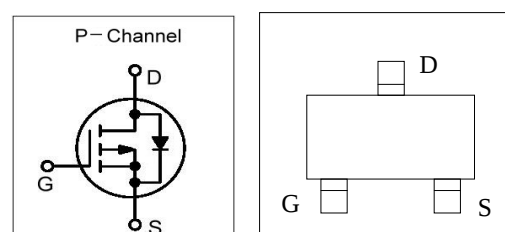
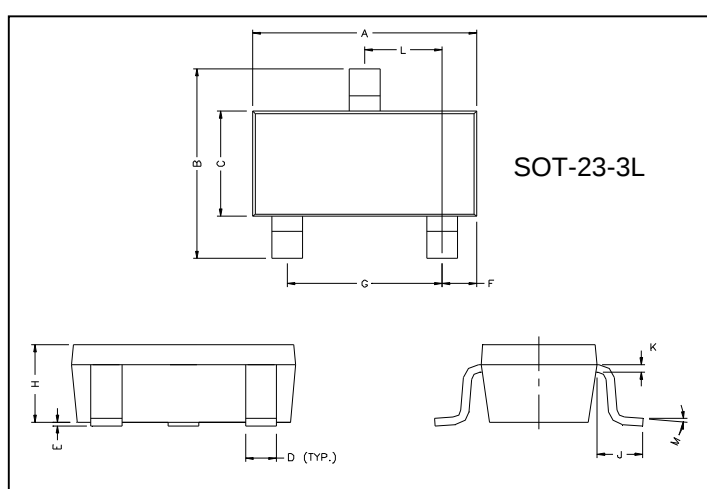
$R_{DS(ON)}, V_{GS}@-4.5V, I_{DS}@-3.0A < 87m\Omega$

Features

Advanced trench process technology

High Density Cell Design For Ultra Low On-Resistance

Package Dimensions



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.10	G	1.90	REF.
B	2.65	2.95	H	1.00	1.30
C	1.50	1.70	K	0.10	0.20
D	0.35	0.50	J	0.40	-
E	0	0.10	L	0.85	1.15
F	0.45	0.55	M	0°	10°

Maximum Ratings and Thermal Characteristics (TA = 25°C unless otherwise noted)

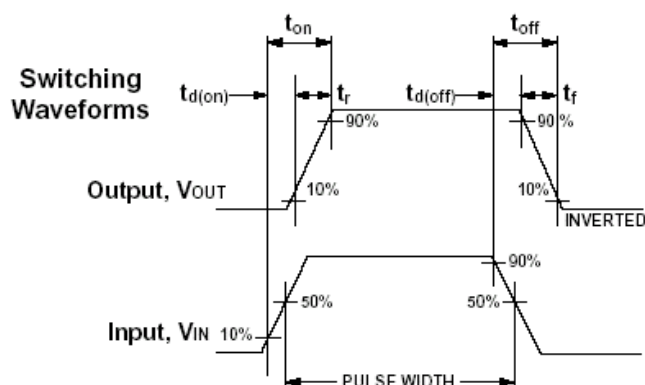
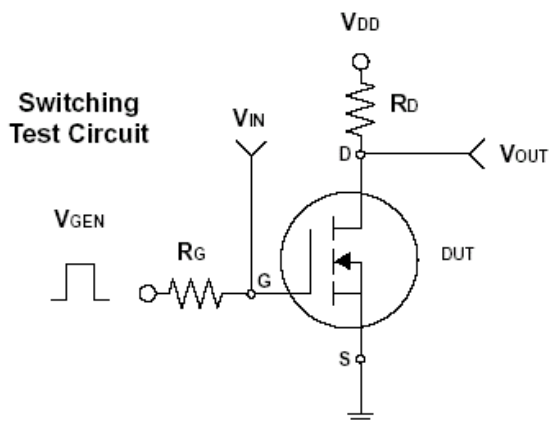
Parameter		Symbol	Limit	Unit
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	± 20	
Continuous Drain Current		I_D	5.3	A
Pulsed Drain Current		I_{DM}	-20	
Maximum Power Dissipation	TA = 25°C	P_D	1.4	W
	TA = 75°C		1	
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55 to 150	°C
Junction-to-Ambient Thermal Resistance (PCB mounted)		$R_{\theta JA}$	125	°C/W

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ELECTRICAL CHARACTERISTICS (TA = 25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static						
Drain-Source Breakdown Voltage	B _V DSS	V _{GS} = 0V, I _D = -250uA	-30			V
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} = -10V, I _D = -4.1A		48.0	64.5	mΩ
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} = -4.5V, I _D = -3A		64.0	87.0	
Drain-Source On-State Resistance						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D = -250uA	-1.0	-1	-3.0	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -24V, V _{GS} = 0V			-1	uA
Gate Body Leakage	I _{GSS}	V _{GS} = ± 20V, V _{DS} = 0V			± 100	nA
Forward Transconductance	g _{fs}	V _{DS} = -5V, I _D = -4 A	5.5		—	S
Dynamic						
Total Gate Charge	Q _g	V _{DS} = -15V , I _D =-5.3A V _{GS} = -10V		9.35		nC
Gate-Source Charge	Q _{gs}			3.43		
Gate-Drain Charge	Q _{gd}			1.7		
Turn-On Delay Time	t _{d(on)}	V _{DD} =-15V, RL=15Ω I _D = -1A, V _{GEN} = -10V R _G = 6Ω		10.8		ns
Turn-On Rise Time	t _r			2.33		
Turn-Off Delay Time	t _{d(off)}			22.53		
Turn-Off Fall Time	t _f			3.87		
Input Capacitance	C _{iss}	V _{DS} = -15V, V _{GS} = 0V f = 1.0 MHz		551.57		pF
Output Capacitance	C _{oss}			90.96		
Reverse Transfer Capacitance	C _{rss}			60.79		
Source-Drain Diode						
Max. Diode Forward Current	I _S				-2.6	A
Diode Forward Voltage	V _{SD}	I _S = 2.6A, V _{GS} = 0V			-1.3	V

Note: Pulse test: pulse width ≤ 300μs, duty cycle ≤ 2%



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Typical Characteristics (T_J = 25°C Noted)

