P-Channel 30V MOSFET

FEATURES

● Advance Trench Process Technology

● High Density Cell Design for Ultra Low On-resistance

Application

●Portable Devices

●Consumer Electronics
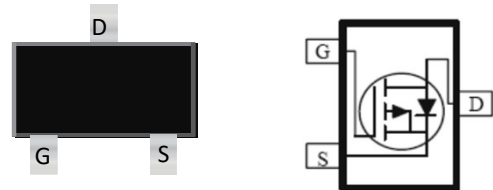
Mechanical

●Case: SOT-23 Package

Packing Information

Package	Packing
SOT-23	3Kpcs/7" Reel

PRODUCTY SUMMARY

V_{DS}	$R_{DS(on)}$ m(Ω)		I_D(A)
-30	55	@V_{GS}=-10.0V	-2.6
	63	@V_{GS}=-4.5V	-2.5
	86	@V_{GS}=-2.5V	-2.1

SOT-23

Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current [1]	I_D	-2.1	A
Maximum Power Dissipation	P_D	0.35	W
Pulsed Drain Current [2]	I_{DM}	-8.4	A
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	°C

Typical Thermal Resistance

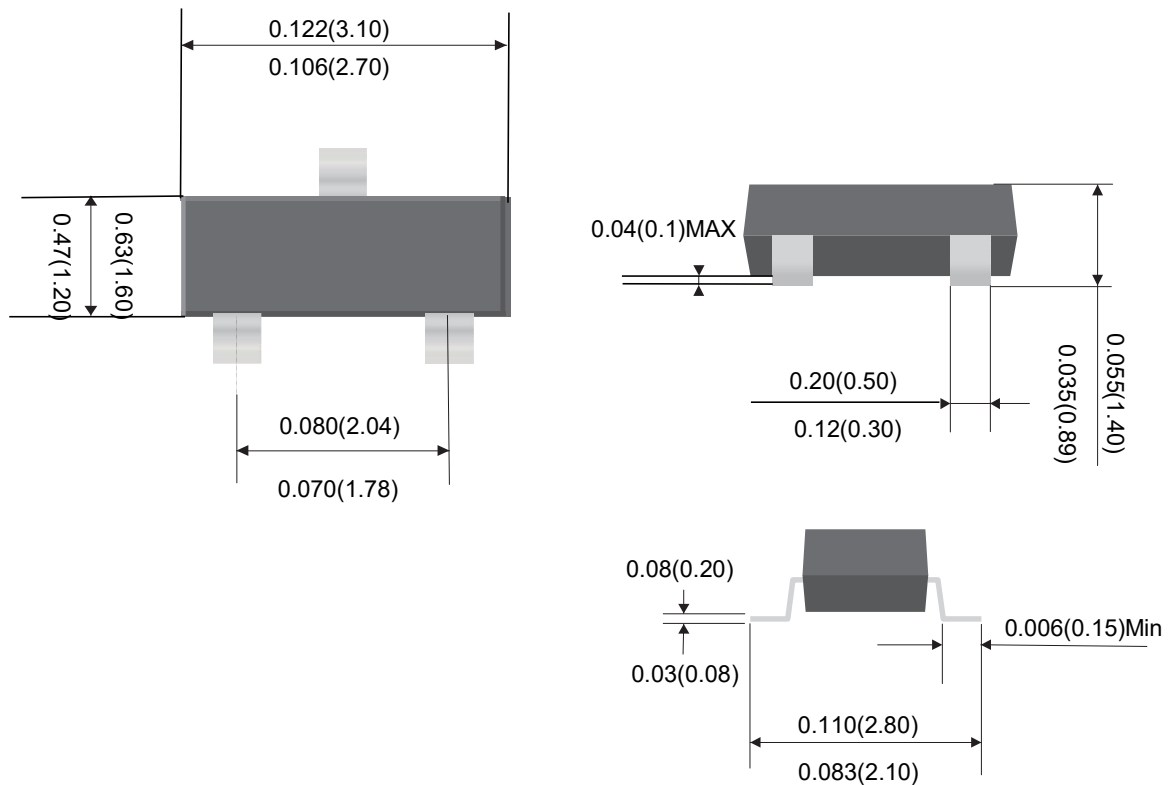| Parameter	Symbol	Limit	Unit
Junction-to-Ambient Thermal Resistance	$R_{\theta JA}$	100	°C/W

Note:
RθJA is the sum of the junction-to-case and case-to-ambient thermal resistance where the case thermal reference is defined as the solder mounting surface of the drain pins mounted on a 1 inch FR-4 with 2oz. square pad of copper

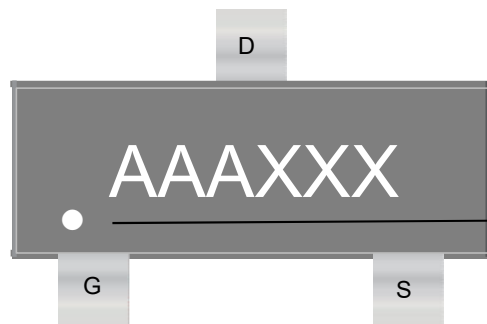| Electrical Characteristics (T_A = 25°C UNLESS OTHERWISE NOTED)						
Characteristics	**Symbol**	**Test Condition**	**Limits**			**Unit**
			Min	**Typ**	**Max**	
Static						
Drain-Source Breakdown Voltage	B_{VDSS}	V_{GS} = 0V, I_D =-250uA	-30	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=-250uA	-0.5	-1	-1.3	V
Drain-Source On-State Resistance	$R_{DS(on)}$	V_{GS}=-10.0V, I_D=-2.6A	-	45	55	mΩ
		V_{GS}=-4.5V, I_D=-2.5A	-	52	63	mΩ
		V_{GS}=-2.5V, I_D=-2.1A	-	71	86	mΩ
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-30V, V_{GS}=0V	-	-	-1	uA
Gate-Source Leakage Current	I_{GSS}	V_{GS}=±12V, V_{DS}=0V			±100	nA
Dynamic [3]						
Total Gate Charge	Q_g	V_{DS}=-15V, I_D=-3.6A, V_{GS}=-10V	-	19	-	nC
Gate-Source Charge	Q_{gs}		-	2	-	nC
Gate-Drain Charge	Q_{gd}		-	2.2	-	nC
Input Capacitance	C_{iss}	V_{DS}=-15V, V_{GS}=0V, f=1.0MHZ	-	994	-	pF
Output Capacitance	C_{oss}		-	78	-	pF
Reverse Transfer Capacitance	C_{rss}		-	58	-	pF
Switching						
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=-15V, I_D=-3.6A, V_{GS}=-10V,RG=6Ω	-	4.6	-	ns
Turn-On Rise Time	t_r		-	22	-	ns
Turn-Off Delay Time	$t_{d(off)}$		-	41	-	ns
Turn-Off Fall Time	t_f		-	25	-	ns
Drain-Source Diode						
Maximum Continuous Drain-Source	I_S	-	-	-	-1.5	A
Diode Forward Voltage	V_{SD}	I_S=-1.0A, V_{GS}=0V	-	-	-1.2	V

Note:
1. Pulse width<300us, Duty cycle<2%
2. Fused current that based on wire numbers and diameter
3. Guaranteed by design, not subject to production testing.

Package Outline Dimensions (inches and millimeters)

0.122(3.10)
0.106(2.70)

0.63(1.60)
0.47(1.20)

0.080(2.04)
0.070(1.78)

0.04(0.1)MAX

0.20(0.50)
0.12(0.30)

0.055(1.40)
0.035(0.89)

0.08(0.20)

0.03(0.08)

0.006(0.15)Min

0.110(2.80)
0.083(2.10)

Marking Information

D

AAAXXX

G   S

First line:
AAA = Product number
XXX = Tracking number

Second line:Gate Pin Point