

P-Channel 20-V (D-S) MOSFET-ESD Protected
FEATURES

- Advance Trench Process Technology
- High Density Cell Design for Ultra Low On-resistance
- ESD Protected

Application

- Portable Devices
- Consumer Electronics

Mechanical

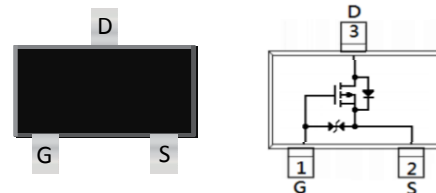
- Case: SOT-23-3L Package

Packing Information

Package	Packing
SOT-23-3L	3Kpcs / 7" Reel

PRODUCTY SUMMARY

V_{DS}	$R_{DS(on)}$ m(Ω)		I_D (A)
-20	27	@ $V_{GS}=-4.5V$	-4.8
	38	@ $V_{GS}=-2.5V$	-4.3

SOT-23-3L

Maximum Ratings ($T_A=25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 8	V
Continuous Drain Current ¹⁾⁴⁾	I_D	-6.2	A
Maximum Power Dissipation	P_D	0.5	W
Pulsed Drain Current ²⁾	I_{DM}	-24.8	A
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^{\circ}C$

Typical Thermal Resistance

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

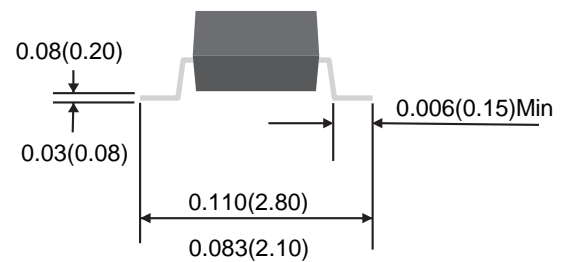
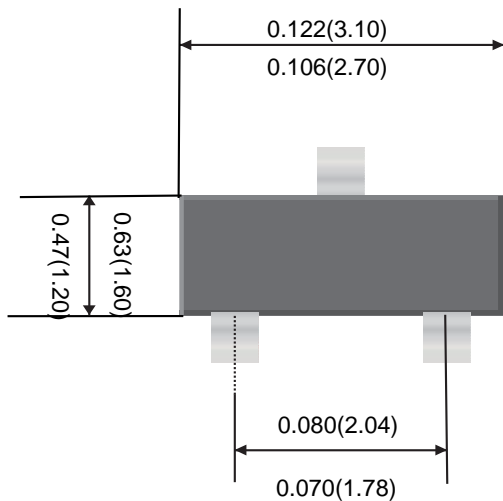
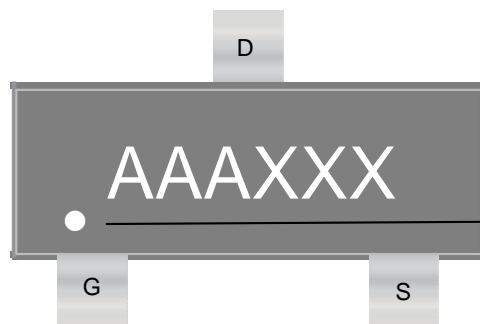
Note:

$R_{\theta JA}$ 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	-20	-	-	V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250uA	-0.5	-0.65	-0.84	V
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} =-4.5V, I _D =-3.0A		23	27	mΩ
		V _{GS} =-2.5V, I _D =-3.0A		32	38	mΩ
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-20V, V _{GS} =0V		-	-1.0	uA
Gate-Source Leakage Current	I _{GSS}	V _{GS} =±8V, V _{DS} =0V		-	±100	nA
Dynamic ³⁾						
Total Gate Charge	Q _g	V _{DS} =-10V, I _D =-9.5A, V _{GS} =-5V	-	30	-	nC
Gate-Source Charge	Q _{gs}		-	6	-	nC
Gate-Drain Charge	Q _{gd}		-	4	-	nC
Input Capacitance	C _{iss}	V _{DS} =-15V, V _{GS} =0V, f=1.0MHZ	-	2158	-	pF
Output Capacitance	C _{oss}		-	845	-	pF
Reverse Transfer Capacitance	C _{rss}		-	230	-	pF
Switching						
Turn-On Delay Time	t _{d(on)}	V _{DD} =-10V, I _D =-9.5A, V _{GS} =-4.5V,RG=6 Ω ,R _D =1.05Ω	-	25	-	ns
Turn-On Rise Time	t _r		-	500	-	ns
Turn-Off Delay Time	t _{d(off)}		-	70	-	ns
Turn-Off Fall Time	t _f		-	300	-	ns
Drain-Source Diode						
Maximum Continuous Body Diode Forward Current	I _S	V _G =V _D =0V , Force Current	-	-	-1.2	A
Diode Forward Voltage	V _{SD}	IS=-1.0A, VGS=0V	-	-	-1.5	V

NOTES :

1. Pulse width<300us, Duty cycle<2%.
2. Essentially independent of operating temperature typical characteristics.
3. Repetitive rating, pulse width limited by junction temperature T_J(MAX)=150°C. Ratings are based on low frequency and duty cycles to keep initial T_J =25°C.
4. The maximum current rating is package limited.
5. RQJA 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 inch² with 2oz. square pad of copper.
6. Guaranteed by design, not subject to production testing.

Package Outline Dimensions (inches and millimeters)

Marking Information


First line:
AAA = Product number
XXX = Tracking number

Second line: Gate Pin Point

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