

### Features

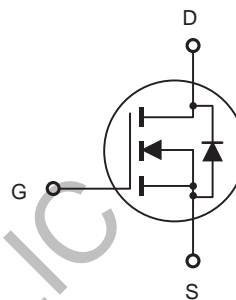
- $V_{DS}$  20V
- $I_D$  2.5A
- $R_{DS(ON)}$  ( at  $V_{GS}=4.5V$  ) <70 mohm
- $R_{DS(ON)}$  ( at  $V_{GS}=2.5V$  ) <98 mohm

### Applications

- Battery protection
- Load switch
- Power management



SOT323



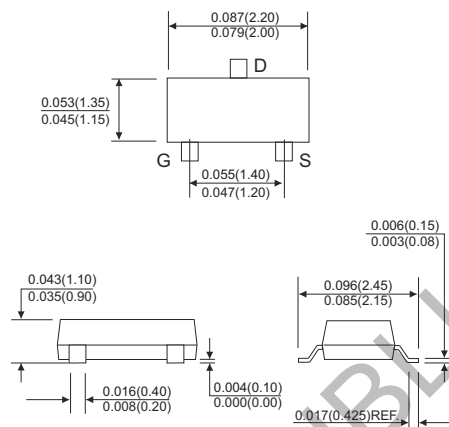
### Absolute Maximum Ratings ( $T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Limit	Unit
Drain-source Voltage	$V_{DS}$	20	V
Gate-source Voltage	$V_{GS}$	$\pm 10$	V
Drain Current	$I_D$	$T_A=25^\circ\text{C}$ @ Steady State	2.5
		$T_A=70^\circ\text{C}$ @ Steady State	2.0
Pulsed Drain Current <sup>A</sup>	$I_{DM}$	14	A
Total Power Dissipation @ $T_A=25^\circ\text{C}$	$P_D$	0.7	W
Thermal Resistance Junction-to-Ambient @ Steady State <sup>B</sup>	$R_{\theta JA}$	178	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature Range	$T_J, T_{STG}$	-55~+150	$^\circ\text{C}$

**Electrical Characteristics** (T =25°C unless otherwise specified)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
<b>Static Parameter</b>						
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V, I_D=250\mu A$	20			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=20V, V_{GS}=0V, T_C=25^\circ C$			1	$\mu A$
Gate-Body Leakage Current	$I_{GSS}$	$V_{GS}= \pm 10V, V_{DS}=0V$			$\pm 100$	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}= V_{GS}, I_D=250\mu A$	0.55	0.78	1.1	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}= 4.5V, I_D=2.5A$		57	70	m $\Omega$
		$V_{GS}= 2.5V, I_D=2.0A$		72	98	
Diode Forward Voltage	$V_{SD}$	$I_S=2.5A, V_{GS}=0V$			1.2	V
Maximum Body-Diode Continuous Current	$I_S$				2.5	A
<b>Dynamic Parameters</b>						
Input Capacitance	$C_{iss}$	$V_{DS}=10V, V_{GS}=0V, f=1MHz$		280		pF
Output Capacitance	$C_{oss}$			46		
Reverse Transfer Capacitance	$C_{rss}$			29		
<b>Switching Parameters</b>						
Total Gate Charge	$Q_g$	$V_{GS}=4.5V, V_{DS}=10V, I_D=2.5A$		2.9		nC
Gate Source Charge	$Q_{gs}$			0.4		
Gate Drain Charge	$Q_{gd}$			0.6		
Turn-on Delay Time	$t_{D(on)}$	$V_{GS}=4.5V, V_{DD}=10V, R_L=1.5\Omega, R_{GEN}=3\Omega$		13		ns
Turn-on Rise Time	$t_r$			54		
Turn-off Delay Time	$t_{D(off)}$			18		
Turn-off Fall Time	$t_f$			11		

**Outline Drawing - SOT323**



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