



**SOT-23-6L Plastic-Encapsulate MOSFETS**

**CJL3443** P-Channel 20-V(D-S) MOSFET

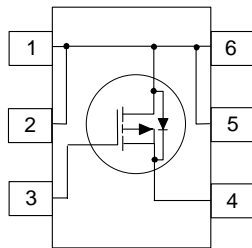
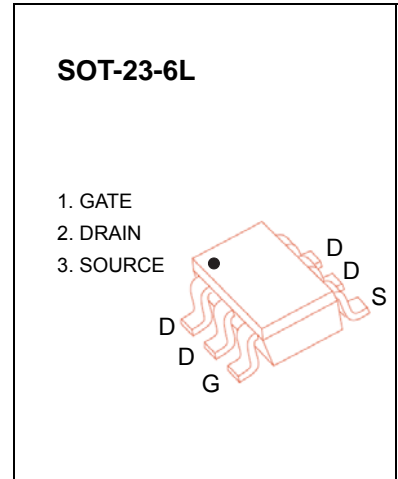
**FEATURE**

- Fast Switching Speed
- Low Gate Charge
- High Performance Trench Technology for extremely Low  $R_{DS(on)}$

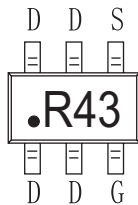
**Description**

This P-Channel MOSFET is produced using advanced PowerTrench process that has been especially tailored to minimize on-state resistance and yet maintain low gate charge for superior switching performance.

These devices have been designed to offer exceptional power dissipation in a very small footprint for applications where the larger packages are impractical.



**MARKING:**



**Maximum ratings ( $T_a=25^{\circ}\text{C}$  unless otherwise noted)**

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	-20	V
Continuous Gate-Source Voltage	$V_{GS}$	$\pm 8$	
Continuous Drain Current	$I_D$	-4	A
Power Dissipation	$P_D$	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	$^{\circ}\text{C}/\text{W}$
Operating Temperature	$T_j$	150	$^{\circ}\text{C}$
Storage Temperature	$T_{stg}$	-55 ~ +150	

**Electrical characteristics (T<sub>a</sub>=25°C unless otherwise noted)**

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
<b>Off characteristics</b>						
Drain-source breakdown voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = -250μA	-20			V
Gate-body leakage	I <sub>GSS</sub>	V <sub>DS</sub> = 0V, V <sub>GS</sub> = ±8V			±100	nA
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> = -16V, V <sub>GS</sub> = 0V			-1.0	μA
<b>On characteristics</b>						
Gate-threshold voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -0.25mA	-0.40		-1.50	V
Static drain-source on-resistance (note 1)	R <sub>DS(on)</sub>	V <sub>GS</sub> = -4.5V, I <sub>D</sub> = -4A			0.065	Ω
		V <sub>GS</sub> = -2.5V, I <sub>D</sub> = -3.2A			0.10	
Forward transconductance (note 1)	g <sub>fs</sub>	V <sub>DS</sub> = -5V, I <sub>D</sub> = -4A	8			S
<b>Dynamic characteristics (note 2)</b>						
Input capacitance	C <sub>iss</sub>	V <sub>DS</sub> = -10V, V <sub>GS</sub> = 0V, f = 1MHz		640		pF
Output capacitance	C <sub>oss</sub>			180		
Reverse transfer capacitance	C <sub>rss</sub>			90		
<b>Switching characteristics</b>						
Turn-on delay time (note 1,2)	t <sub>d(on)</sub>	V <sub>GS</sub> = -4.5V, V <sub>DD</sub> = -10V, I <sub>D</sub> = -1A, R <sub>GEN</sub> = 6Ω		20		ns
Rise time (note 1,2)	t <sub>r</sub>			30		
Turn-off delay time (note 1,2)	t <sub>d(off)</sub>			42		
Fall time (note 1,2)	t <sub>f</sub>			55		
<b>Drain-source body diode characteristics</b>						
Body diode forward voltage (note 1)	V <sub>SD</sub>	I <sub>S</sub> = -1.3A, V <sub>GS</sub> = 0V			-1.2	V

**Notes:**

1. Pulse Test ; Pulse Width ≤300μs, Duty Cycle ≤2%.
2. These parameters have no way to verify.

# Typical Characteristics

# CJL3443

