100V 8.3m N-Ch Power MOSFET

Features

- Ultra-low $R_{DS(ON)}$
- Low Gate Charge
- 100% UIS Tested, 100% R_g Tested
- Pb-free Lead Plating
- Halogen-free and RoHS-compliant

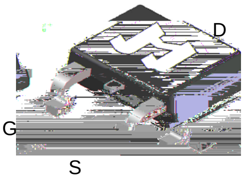
Product Summary

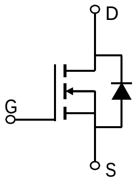
Parameter	Value	Unit
V_{DS}	100	V
$V_{GS(th)\_Typ}$	1.9	V
', # 9_6 9	70	A
$5_{6\ 21\ B7\backslash S}$ # 9_6 9	8.3	m
$R_{DS(ON)\_Typ}$ (@ V_{GS} = 4.5V)	10.8	m

Applications

- Power Managerment in Telecom., Industrial Automation, CE
- Current Switching in DC/DC & AC/DC Sub-systems
- Motor Driving in Power Tool, E-vehicle, Robotics

TO-252-3L Top View





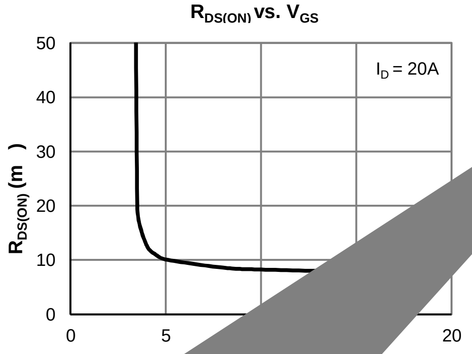
Ordering Information

Device	Package	# of Pins	Marking	MSL	T_J (°C)	Media	Quantity (pcs)
JMSL1010AK-13	TO-252-3L	3	SL1010A	1	-55 to 150	13-inch Reel	2500

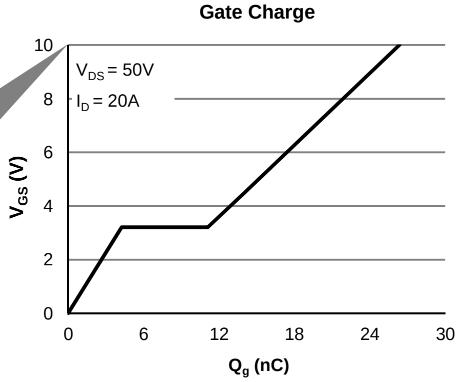
Absolute Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter		Symbol	Value	Unit
'UDLQ WR 6RXUFH 9ROWDJH		V_{DS}		V
*DWH WR 6RXUFH 9ROWDJH			“	
	$7_&$ ƒ &	'		$
	$7_&$ ƒ &			
$YDODQFKH &XUUHQW				
$YDODQFKH (QHUJ\				
3RZHU 'LVVLSDWLRQ	$7_&$ ƒ &	3'		:
	$7_&$ ƒ &			
-XQFWLRQ 6WRUDJH 7HPSHUDWXUH 5DQJH				WR

$R_{DS(ON)}$ vs. V_{GS}



Gate Charge



	Symbol		Min.	Typ.	Max.	Unit
	$V_{(BR)DSS}$		100			V
		$\overset{V}{V}_{DS}$ = 80V, V_{GS} = 0V			1.0	
		T_J 55°C			5.0	
	I_{GSS}				±100	nA
Gate Threshold Voltage	$V_{GS(th)}$		1.2	1.9	2.5	V
				8.3	10.0	m
				10.8	13.5	m
	g_{FS}			57		S
	V_{SD}			0.7	1.0	V
	I_S				89	A
	C_{iss}			1535		pF
	C_{oss}			335		pF
	C_{rss}			8.2		pF
	R_g			1.8		
	Q_g			26		nC
	Q_g			14		nC
	Q_{gs}			4.3		nC
	Q_{gd}			6.8		nC
	$t_{D(on)}$			7.5		ns
	t_r			15.8		ns
	$t_{D(off)}$			31		ns
	t_f			28		ns
	t_{rr}			43		ns
	Q_{rr}			35		nC

Thermal Performance

	Symbol	Typ.	Max.	Unit
Thermal Resistance, Junction-to-Ambient	R_{JA}	42	51	°C/W
Thermal Resistance, Junction-to-Case	R_{JC}	1.1	1.4	°C/W

Notes:

1. Computed continuous current assumes the condition of T_{J_Max} while the actual continuous current depends on the thermal & electro-mechanical

2. This single-pulse measurement was taken under T_{J_Max} = 150°C.

3. This single-pulse measurement was taken under the following condition [L = 100 H, V_{GS} = 10V, V_{DD} = 50V] while its value is limited by

4. The power dissipation P_D is based on T_{J_Max} = 150°C. ̃Ḥ Ƴ ´ Ṯ Ư V

5. This value is guaranteed by design hence io - γ ŕ ! a ¢ t g µ g µ

Typical Electrical & Thermal Characteristics

TO-252-3L Package Information