

60V 10mΩ N-Ch Power MOSFET

Product Summary

Parameter	Value	Unit
V_{DS}	60	V
$V_{GS(th)}_{Typ}$	1.7	V
I_D (@ $V_{GS} = 10V$) ⁽¹⁾	12.7	A
$R_{DS(ON)}_{Typ}$ (@ $V_{GS} = 10V$)	10	mΩ
$R_{DS(ON)}_{Typ}$ (@ $V_{GS} = 4.5V$)	13	mΩ

Ordering Information

Device	Package	# of Pins	Marking	MSL	T_J (°C)	Media	Quantity (pcs)
JMSL0615AP-13	SOP-8L	8	SL0615A	3	-55 to 150	13-inch Reel	2500

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

Parameter	Symbol	Value	Unit
Drain-to-Source Voltage	V_{DS}	60	V
Gate-to-Source Voltage	V_{GS}	±20	V
Continuous Drain Current ⁽¹⁾	I_D	$T_A = 25^\circ\text{C}$	12.7
		$T_A = 70^\circ\text{C}$	10.2
Pulsed Drain Current ⁽²⁾	I_{DM}	51	A
Avalanche Current ⁽³⁾	I_{AS}	20	A
Avalanche Energy ⁽³⁾	E_{AS}	20	mJ
Power Dissipation ⁽⁴⁾	P_D	$T_A = 25^\circ\text{C}$	3.6
		$T_A = 70^\circ\text{C}$	2.3
Junction & Storage Temperature Range	T_J, T_{STG}	-55 to 150	°C

Symbol	Min.	Typ.	Max.	Unit
$V_{(R)DS}$	60		1.0	V
			5.0	
			±100	nA
Gate Threshold Voltage	1.2	1.7	2.5	V
		10.0	12.5	mΩ
		13.0	16.9	mΩ
		50		S
		0.72	1.0	V
			3.6	A
		731		pF
		224		pF
		7.4		pF
		1.7		Ω

SWITCHING PARAMETERS ⁽⁵⁾

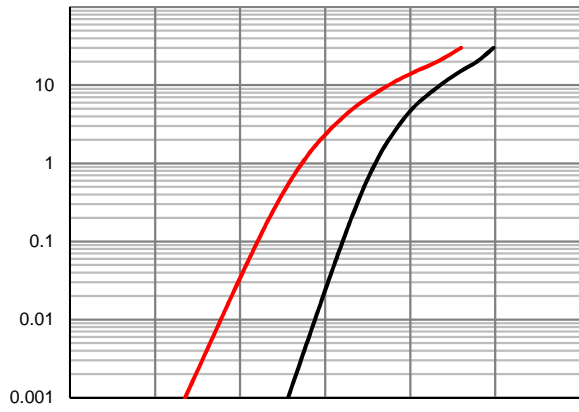
Q_g		13.9		nC
Q_g		7.0		nC
Q_{gs}		1.6		nC
Q_{gd}		3.1		nC
$t_{D(on)}$		3.9		ns
t_r		4.5		ns
$t_{D(off)}$		16.5		ns
t_f		6.8		ns
t_{rr}		23		ns
Q_{rr}	$I_F = 12A, di_F/dt = 100A/\mu S$	8.8		nC

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance, Junction-to-Ambient (t = 10s)	$R_{\theta JA}$	30	35		°C/W
Thermal Resistance, Junction-to-Ambient (steady state)	$R_{\theta JA}$	40	50		°C/W

Notes:

- application board design.
- This single-pulse measurement was taken under $T_{J_Max} = 150^\circ C$.
- This single-pulse measurement was taken under the following condition [L = 100μH, $V_{GS} = 10V$, V_{DS}
- The power dissipation P_D is based on $T_{J_Max} = 150^\circ C$.
- This value is guaranteed by design hence it is not included in the production test.

Typical Electrical & Thermal Characteristics



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SOP-8L Package Information

