JMSL0615AP

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°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)	T_A = 25°C	I_D	12.7	A
	T_A = 70°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)	T_A = 25°C	P_D	3.6	W
	T_A = 70°C		2.3	
Junction & Storage Temperature Range		T_J, T_{STG}	-55 to 150	°C

	Symbol		Min.	Typ.	Max.	Unit
	$V_{(BR)DSS}$		60			V
		V_{DS} = 48V, V_{GS} = 0V			1.0	
		T_J = 55°C			5.0	
	I_{GSS}				±100	nA
Gate Threshold Voltage	$V_{GS(th)}$		1.2	1.7	2.5	V
				10.0	12.5	mΩ
				13.0	16.9	mΩ
	g_{FS}			50		S
	V_{SD}			0.72	1.0	V
	I_S				3.6	A
	C_{iss}			731		pF
	C_{oss}			224		pF
	C_{rss}			7.4		pF
	R_g			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/μs		8.8		nC

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

Notes:

application board design.

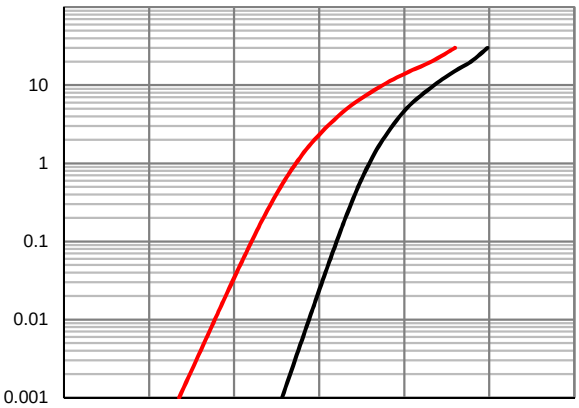
2. This single-pulse measurement was taken under T_{J_Max} = 150°C.

3. This single-pulse measurement was taken under the following condition [L = 100μH, V_{GS} = 10V, V_{DS}

4. The power dissipation P_D is based on T_{J_Max} = 150°C.

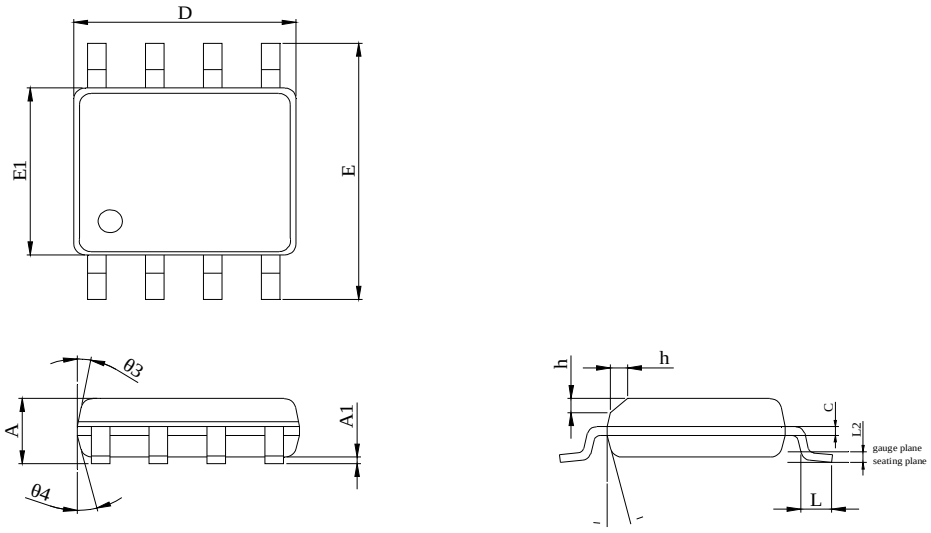
5. This value is guaranteed by design hence it is not included in the production test.

Typical Electrical & Thermal Characteristics



Typical Electrical & Thermal Characteristics

SOP-8L Package Information



DIMENSIONS:MILLIMETERS