JMSL0606AKQ

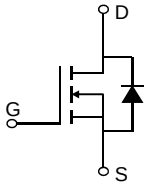
60V 4.6m N-Ch Power MOSFET

Features

- Ultra-low ON-resistance, $R_{DS(ON)}$
- Low Gate Charge, Q_g
- 100% UIS and R_g Tested
- Pb-free Lead Plating
- Halogen-free and RoHS-compliant
- AEC-Q101 Qualified for Automotive Applications

Product Summary

Parameter	Value	Unit
V_{DS}	60	V
$V_{GS(th)_Typ}$	1.6	V
I_D (@ V_{GS} = 10V) (1)	93	A
$R_{DS(ON)_Typ}$ (@ V_{GS} = 10V)	4.6	m
$R_{DS(ON)_Typ}$ (@ V_{GS} = 4.5V)	6.0	m

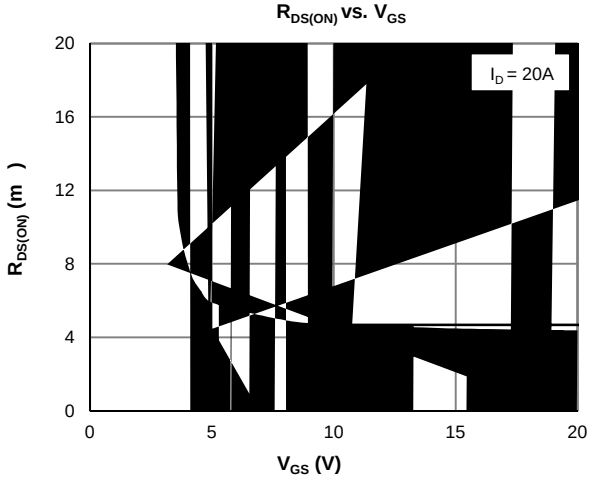


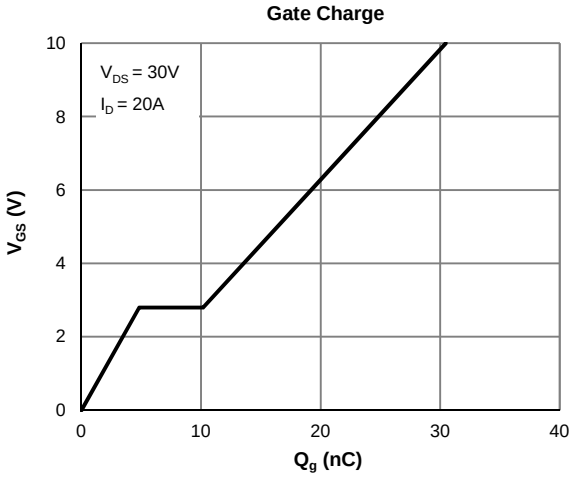
Ordering Information

Device	Package	# of Pins	Marking	MSL	T_J (°C)	Media	Quantity (pcs)
JMSL0606AKQ-13	TO-252-3L	3	SL0606A	1	-55 to 175	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_C = 25°C	I_D	93	A
	T_C = 100°C		66	
Pulsed Drain Current (2)		I_{DM}	373	A
Avalanche Current (3)		I_{AS}	25	A
Avalanche Energy (3)		E_{AS}	94	mJ
Power Dissipation (4)	T_C = 25°C	P_D	100	W
	T_C = 100°C		50	
Junction & Storage Temperature Range		T_J, T_{STG}	-55 to 175	°C



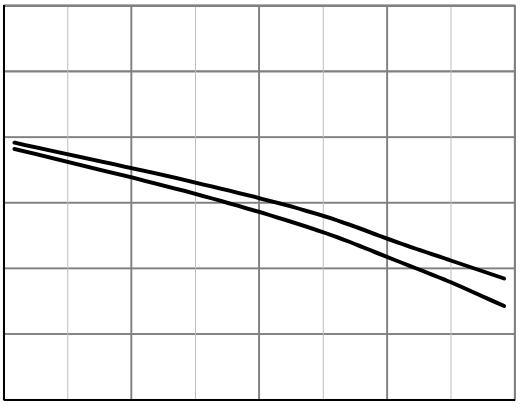


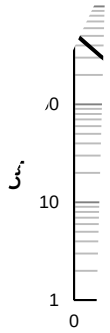
	Symbol			Min.	Typ.	Max.	Unit
	$V_{(BR)DSS}$			60			V
		V_{DS} = 48V, V_{GS} = 0V				1.0	A
			T_J = 55°C			5.0	
	I_{GSS}					±100	nA
Gate Threshold Voltage	$V_{GS(th)}$			1.2	1.6	2.5	V
					4.6	5.8	m
					6.0	7.5	m
	g_{FS}				85		S
	V_{SD}				0.7	1.0	V
	I_S					100	A
	C_{iss}				2122		pF
	C_{oss}				440		pF
	C_{rss}				4.4		pF
	R_g				1.4		
	Q_g				32		nC
	Q_g				14.0		nC
	Q_{gs}				4.8		nC
	Q_{gd}				5.4		nC
	$t_{D(on)}$				8.0		ns
	t_r				5.1		ns
	$t_{D(off)}$				38		ns
	t_f				14.8		ns
	t_{rr}				37		ns
	Q_{rr}				43		nC

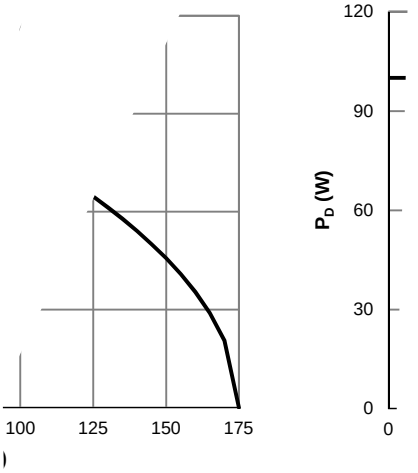
Symbol	Unit
R_{JA}	°C/W
R_{JC}	°C/W

Notes:

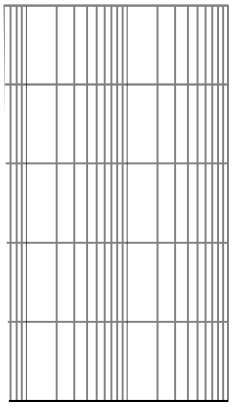
Typical Electrical & Thermal Characteristics



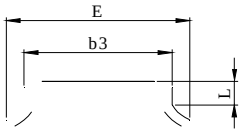




De-rating



TO-252-3L Package Information







Top View

Side View

Bottom View



Front View

DIM.	MILLIMETER		
	MIN.	NOM.	MAX.
A	2.18	2.30	2.39
A1	0	-	0.13
b	0.64	0.76	0.89
c	0.40	0.50	0.61
c1	0.46	0.50	0.58
D	5.97	6.10	6.23
D1	5.05	--	--
E	6.35	6.60	6.73
E1	4.32	--	--
b3	5.21	5.38	5.55
e	2.29 BSC		
H	9.40	10.00	10.40
L	0.89	--	1.27
L2	1.40		1.78
V1	7° REF		
V2	0°	-	6°