

KYL3407

-30V P-Channel Mosfet

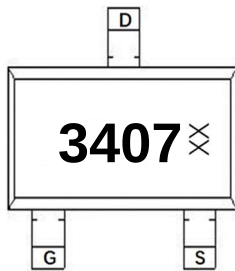
FEATURES

- $R_{DS(ON)} \leq 60m\Omega$ (45m Ω Typ.)
@ $V_{GS}=-10V$
- $R_{DS(ON)} \leq 100m\Omega$ (70m Ω Typ.)
@ $V_{GS}=-4.5V$

APPLICATIONS

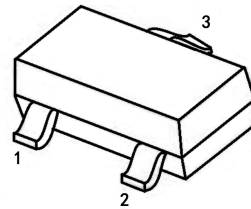
- Load Switch
- DC/DC Converter

MARKING



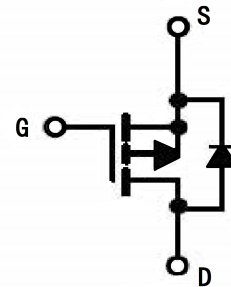
3407 Device Code

SOT-23-3L



1. GATE
2. SOURCE
3. DRAIN

P-CHANNEL MOSFET



Absolute maximum ratings (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{DS}	Drain-Source Voltage	-30	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Continuous Drain Current	-3.8	A
I_{DM}	Maximum Pulsed Drain to Source Diode Forward Current	-18	A
P_D	Power Dissipation	1.25	W
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	100	°C/W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-55~ +150	°C

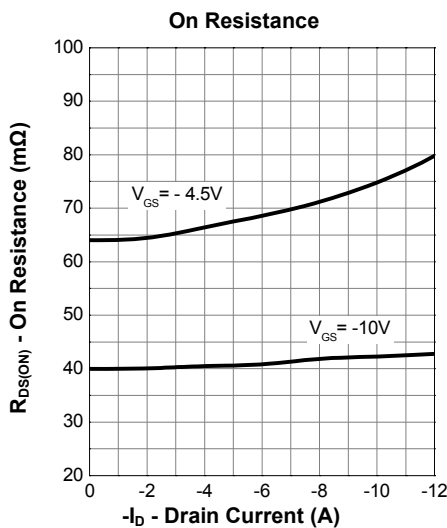
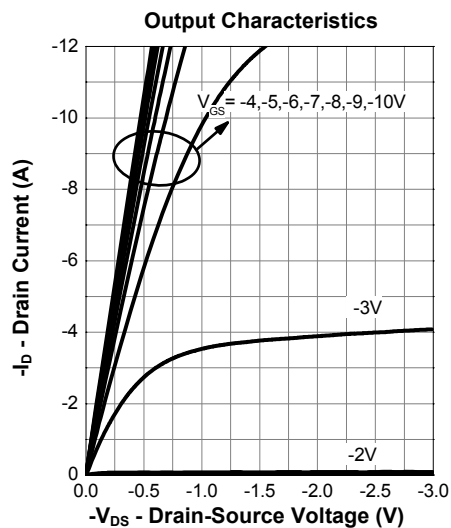
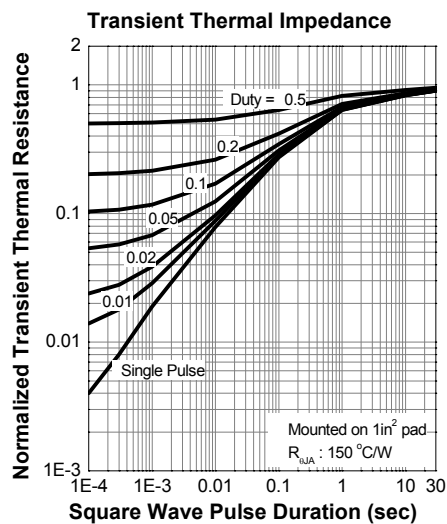
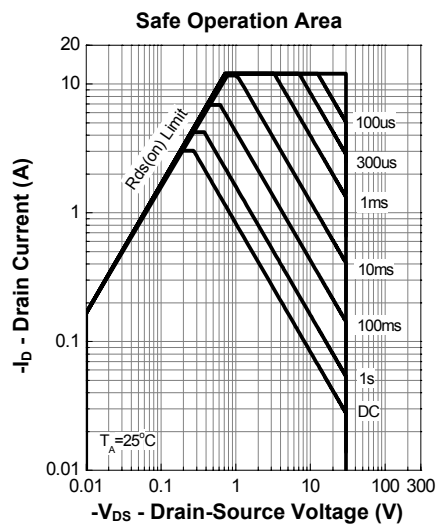
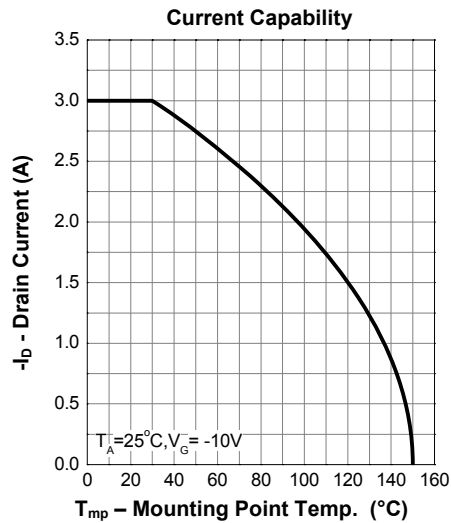
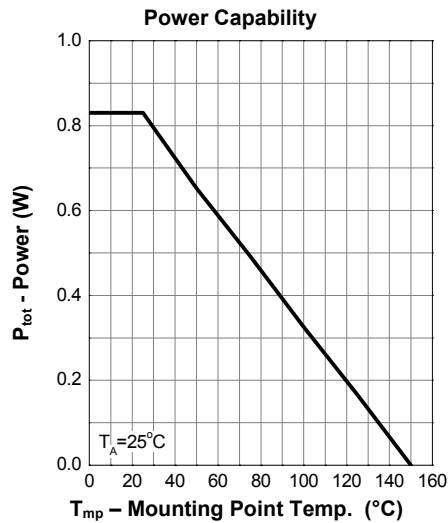
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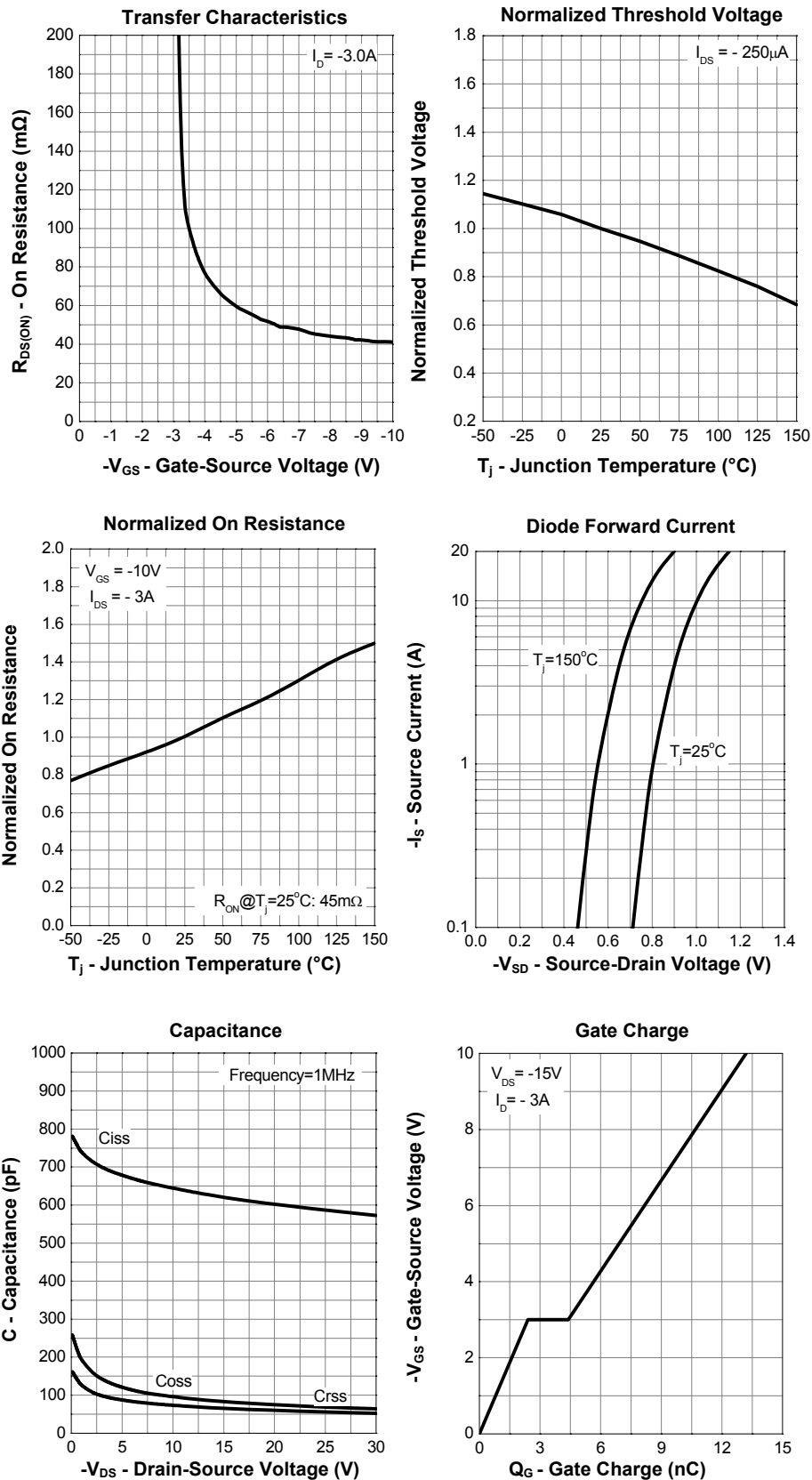
MOSFET ELECTRICAL CHARACTERISTICS Ta=25 °C unless otherwise specified

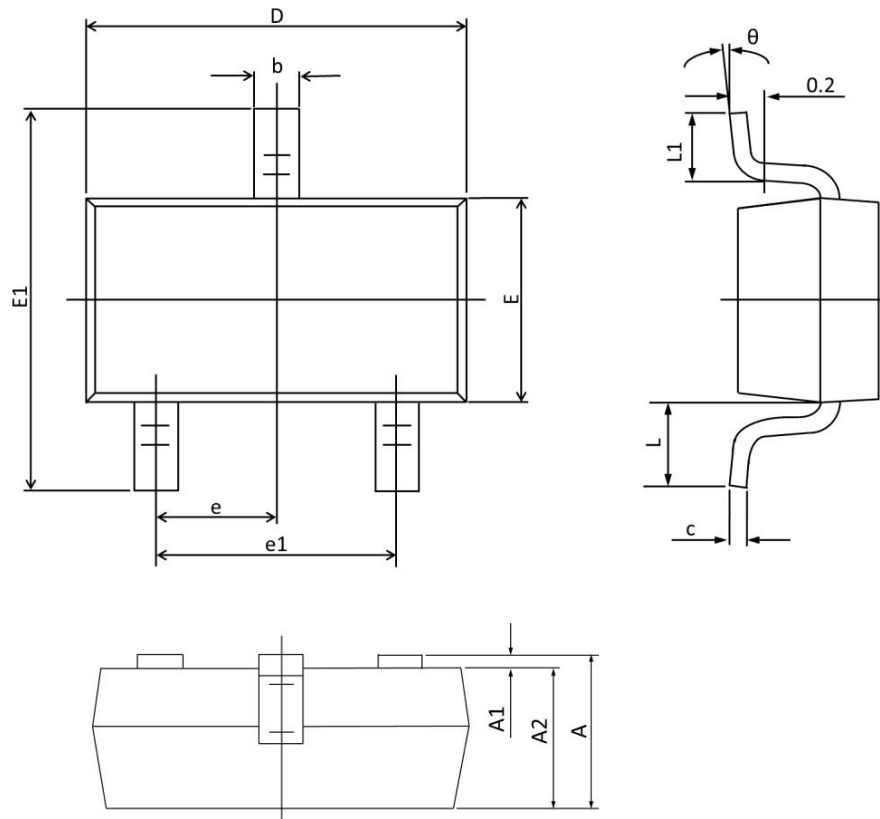
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristic						
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} = 0V, I _D = -250μA	-30	-	-	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = -24V, V _{GS} = 0V, T _J = 85℃	-	-	-30	μA
I _{GSS}	Gate to Body Leakage Current	V _{GS} = ±20V, V _{DS} = 0V	-	-	±100	nA
On Characteristics						
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} , I _D = -250μA	-1	-	-2	V
R _{DS(on)}	Static Drain-Source On-Resistance ^{note1}	V _{GS} = -10V, I _D = -3A	-	45	60	mΩ
		V _{GS} = -4.5V, I _D = -2A	-	70	100	mΩ
R _G	Gate Resistance	V _{GS} = V _{DS} = 0 V, f = 1 MHz	-	-	10	Ω
Dynamic Characteristics ^{note2}						
C _{iSS}	Input Capacitance	V _{DS} = -15V, V _{GS} = 0V f = 1.0MHz	-	619	-	pF
C _{oSS}	Output Capacitance		-	83	-	pF
C _{rSS}	Reverse Transfer Capacitance		-	65	-	pF
Q _g	Total Gate Charge	V _{DS} = -15V, I _D = -3A V _{GS} = -10V	-	13.2	-	nC
Q _{gs}	Gate-Source Charge		-	2.4	-	nC
Q _{gd}	Gate-Drain(“Miller”) Charge		-	2	-	nC
Switching Characteristics ^{note2}						
t _{d(on)}	Turn-On Delay Time	V _{GS} = -10V, V _{DS} = -15V R _G = 6Ω, I _D = -3A R _L = 5Ω	-	2.6	-	ns
t _r	Turn-On Rise Time		-	7.8	-	ns
t _{d(off)}	Turn-Off Delay Time		-	42	-	ns
t _f	Turn-Off Fall Time		-	5.5	-	ns
Drain-Source Diode Characteristics and Maximum Ratings						
V _{SD}	Drain to Source Diode Forward Voltage	V _{GS} = 0V, I _{SD} = -1A T _J = 25℃	-	-0.8	-1.3	V
t _{rr}	Reverse Recovery Time	V _{GS} = 0V, I _S = -3A	-	7.2	-	ns
Q _{rr}	Reverse Recovery Charge	di/dt = 100A/μs	-	2.3	-	nC

Notes: 1. Pulse Test: Pulse width $\leq 300\mu s$, Duty Cycle $\leq 2\%$

2. Guaranteed by design, not subject to production testing

TYPICAL PERFORMANCE CHARACTERISTICS


TYPICAL PERFORMANCE CHARACTERISTICS (cont.)


SOT-23-3L PACKAGE OUTLINE DRAWING


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950 TYP.		0.037 TYP.	
e1	1.800	2.000	0.071	0.079
L	0.700 REF.		0.028 REF.	
L1	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°