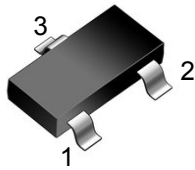
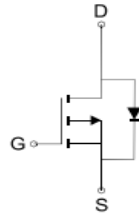


SOT-23



MARKING: 3407



P-Channel MOSFET

Features

Advanced trench process technology
High density cell design for Ultra Low On-Resistance
Halogen free and RoHS compliant

Mechanical Data

SOT-23 Small Outline Plastic Package
EpoxyUL:94V-0

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SOT-23	Tape/Reel,7" reel	3000	EIA-481-1

Maximum Ratings & Thermal Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified.)

Symbol	Parameter	Rating	Unit
V_{DS}	Drain-Source Breakdown Voltage	-30	V
V_{GS}	Gate-Source Voltage	±20	V
T_J	Maximum Junction Temperature	150	°C
T_{STG}	Storage Temperature Range	-50 to 155	°C
I_S	Diode Continuous Forward Current	$T_c=25^\circ\text{C}$ -4.1	A
Mounted on Large Heat Sink			
I_{DM}	Pulse Drain Current Tested	$T_c=25^\circ\text{C}$ -15	A
I_D	Continuous Drain Current@GS=10V	$T_c=25^\circ\text{C}$ -4.1	A
P_D	Maximum Power Dissipation	$T_c=25^\circ\text{C}$ 1.5	W
$R_{\theta JA}$	Thermal Resistance Junction-Ambient>(*1 in2 Pad of 2-oz Copper, Max.)	82	°C/W

Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified).

Symbol	Parameter	Condition	Min	Typ	Max	Unit
$BV_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=-250\mu A$	-30	--	--	V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=-30V, V_{GS}=0V$	--	--	-1	uA
I_{GSS}	Gate-Body Leakage Current	$V_{GS}=\pm 20V, V_{DS}=0V$	--	--	±100	nA
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1.0	-1.5	-2.5	V
$R_{DS(on)}$	Drain-Source On-State Resistance	$V_{GS}=-10V, I_D=-4.1A$	--	40	60	mΩ
		$V_{GS}=-4.5V, I_D=-3.5A$	--	55	90	mΩ

Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified).

Symbol	Parameter	Condition	Min	Typ	Max	Unit
Dynamic Electrical Characteristics						
C_{ISS}	Input Capacitance		--	570	--	pF
C_{OSS}	Output Capacitance	$V_{DS}=-15V, V_{GS}=0V, f=1MHz$	--	80	--	pF
C_{RSS}	Reverse Transfer Capacitance		--	70	--	pF
Switching Characteristics						
Q_g	Total Gate Charge		--	11.5	--	nC
Q_{gs}	Gate Source Charge	$V_{DS}=-15V, I_D=-4.2A, V_{GS}=-10V$	--	2.3	--	nC
Q_{gd}	Gate Drain Charge		--	2.1	--	nC
$t_{d(on)}$	Turn-on Delay Time		--	3.8	--	nS
t_r	Turn-on Rise Time		--	17.5	--	nS
$t_{d(off)}$	Turn-Off Delay Time	$V_{DS}=-15V, I_D=-1A, V_{GS}=-10V, R_G=3\Omega$	--	18	--	nS
t_f	Turn-Off Fall Time		--	21.8	--	nS
Source- Drain Diode Characteristics						
V_{SD}	Forward on voltage	$T_j=25^\circ C, I_s=-4A,$	--	--	-1.2	V

Ratings and Characteristic Curves

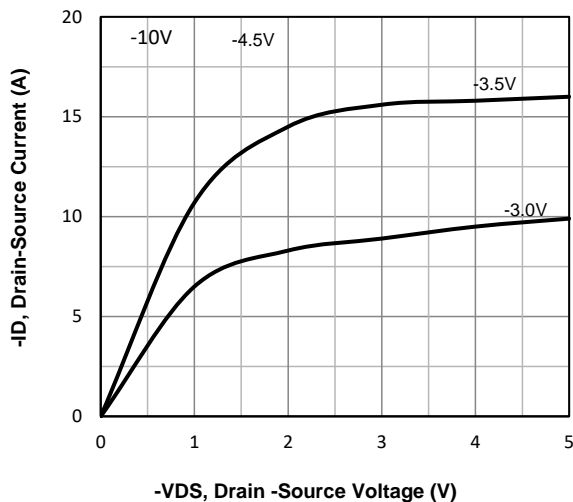


Fig1. Typical Output Characteristics

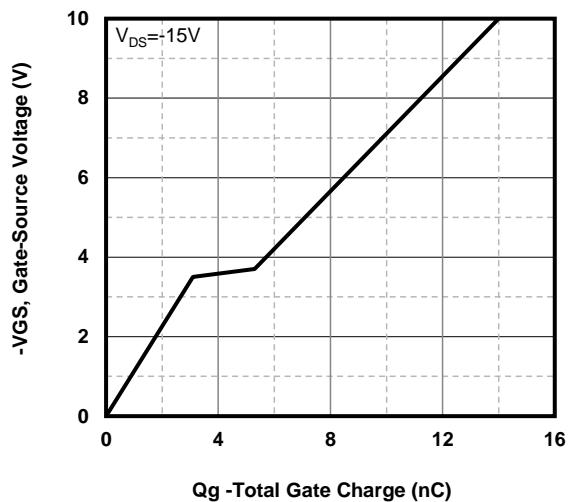
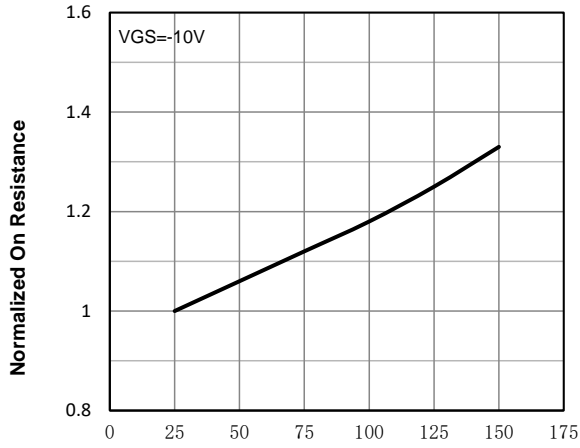
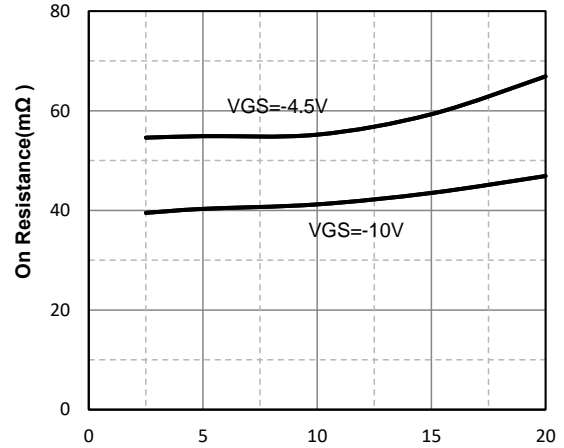


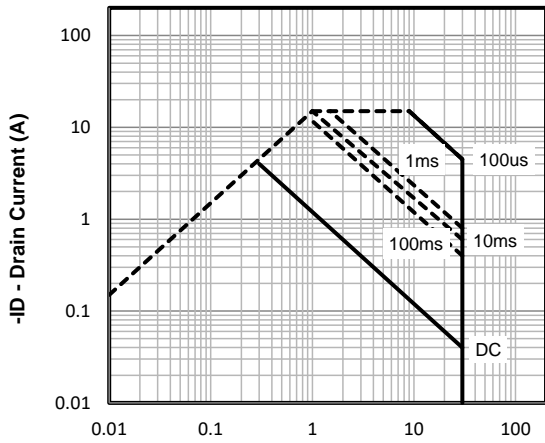
Fig2. Typical Gate Charge Vs. Gate-Source Voltage



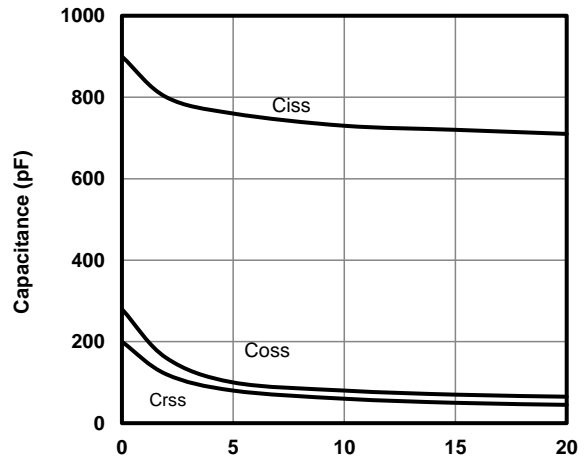
T_j - Junction Temperature (°C)
Fig3. Normalized On-Resistance Vs.



ID, Drain-Source Current (A)
Fig4. On-Resistance Vs. Drain-Source Current

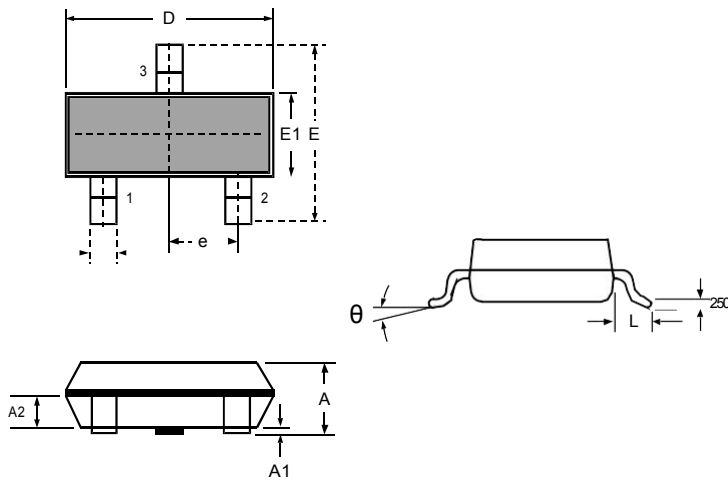


-VDS, Drain -Source Voltage (V)
Fig5. Maximum Safe Operating Area



-VDS, Drain-Source Voltage (V)
Fig6 Typical Capacitance Vs. Drain-Source

Package Outline Dimensions: SOT-23



DIMENSIONS

SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
D	2.800	3.000	0.110	0.118
b	0.300	0.500	0.012	0.020
E	2.250	2.550	0.089	0.100
E1	1.200	1.400	0.047	0.055
e	0.950 BSC		0.037 BSC	
L	0.300	0.500	0.012	0.020
θ	0	8°	0	8°

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