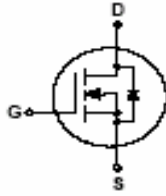
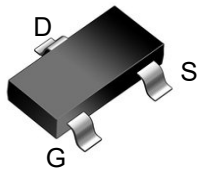


SOT-23



MARKING: R2

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

Maximum Ratings & Thermal Characteristics

Symbol	Parameter		Rating	Unit
Common Ratings (TC=25°C Unless Otherwise Noted)				
V _{DS}	Drain-Source Breakdown Voltage		30	V
V _{GS}	Gate-Source Voltage		±12	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°C	4	A
Mounted on Large Heat Sink				
I _{DM}	Pulse Drain Current Tested	T _C =25°C	19	A
I _D	Continuous Drain Current	T _C =25°C	4	A
P _D	Maximum Power Dissipation	T _C =25°C	1.2	W
R _{θJA}	Thermal Resistance Junction-Ambient		104	°C/W

Electrical Characteristics

Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Electrical Characteristics @ TJ = 25°C (unless otherwise stated)						
BV(BR)DSS	Drain-Source Breakdown Voltage	VGS=0V, ID=250μA	30	--	--	V
IDSS	Zero Gate Voltage Drain Current	VDS=30V, VGS=0V	--	--	1	μA
IGSS	Gate-Body Leakage Current	VGS=±12V, VDS=0V	--	--	±100	nA
VGS(th)	Gate Threshold Voltage	VDS=VGS, ID=250μA	0.65	0.9	1.5	V
RDS(on)	Drain-Source On-State Resistance	VGS=10V, ID=4A	--	33	50	mΩ
		VGS=4.5V, ID=3A	--	38	60	mΩ
		VGS=2.5V, ID=2A	--	47	70	mΩ
Dynamic Electrical Characteristics @ TJ = 25°C (unless otherwise stated)						
Ciss	Input Capacitance	VDS=15V, VGS=0V, f=1MHz	--	285	--	pF
Coss	Output Capacitance		--	33	--	pF
Crss	Reverse Transfer Capacitance		--	27	--	pF
Switching Characteristics						
Qg	Total Gate Charge	VDS=15V, ID=4A, VGS=4.5V	--	2.6	--	nC
Qgs	Gate Source Charge		--	0.6	--	nC
Qgd	Gate Drain Charge		--	0.9	--	nC
td(on)	Turn-on Delay Time	VDD=15V, ID=2A, VGS=4.5V, RG=3Ω	--	15	--	nS
tr	Turn-on Rise Time		--	42	--	nS
td(off)	Turn-Off Delay Time		--	16	--	nS
tr	Turn-Off Fall Time		--	10	--	nS
Source- Drain Diode Characteristics						
VSD	Forward on voltage	Tj=25°C, Is=4A,	--	--	1.2	V

Ratings and Characteristic Curves

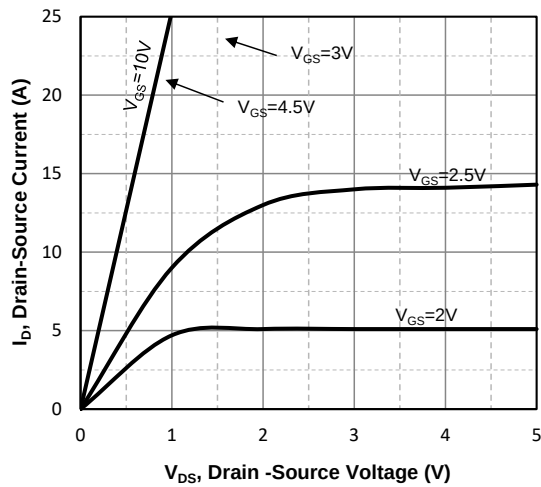


Fig1. Typical Output Characteristics

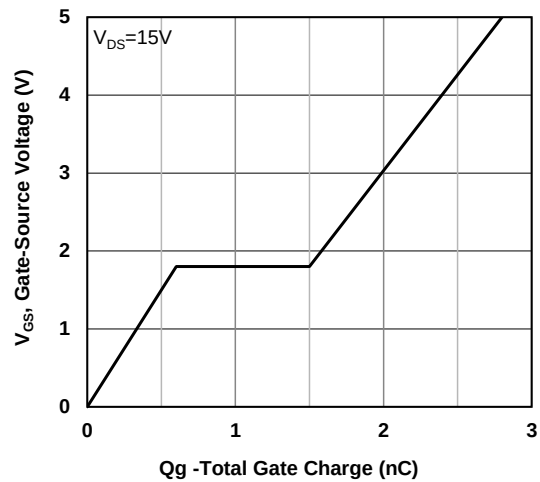


Fig2. Typical Gate Charge Vs. Gate-Source Voltage

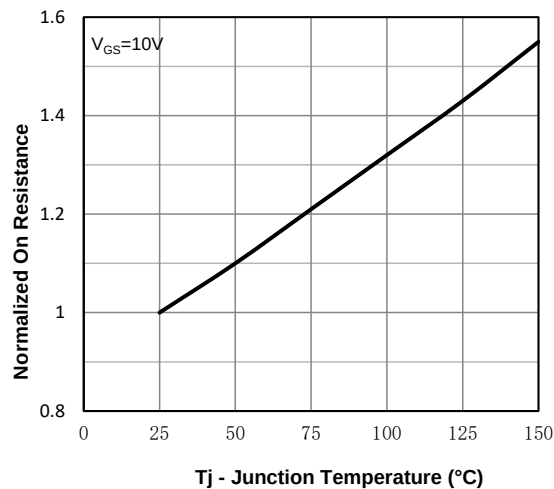


Fig3. Normalized On-Resistance Vs. Temperature

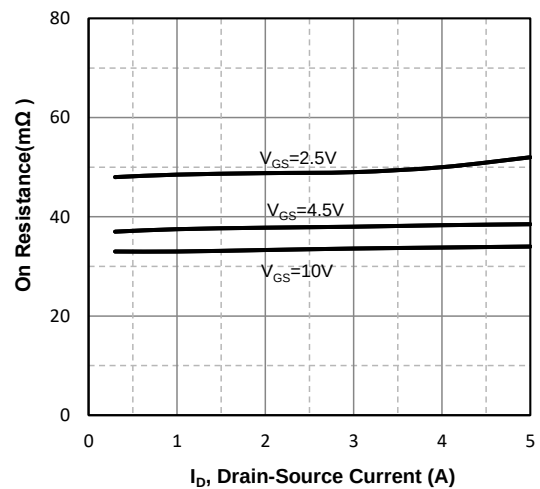


Fig4. On-Resistance Vs. Drain-Source

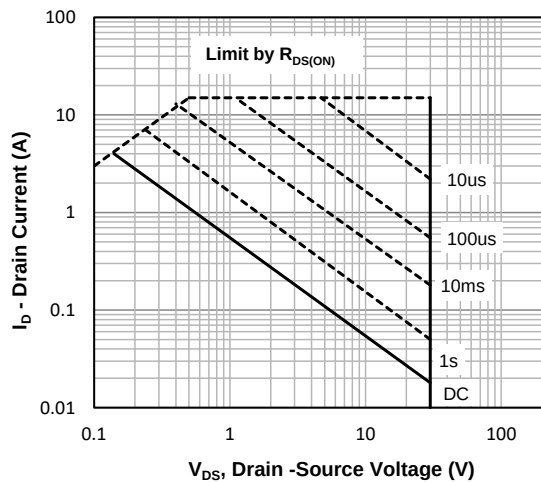


Fig5. Maximum Safe Operating Area

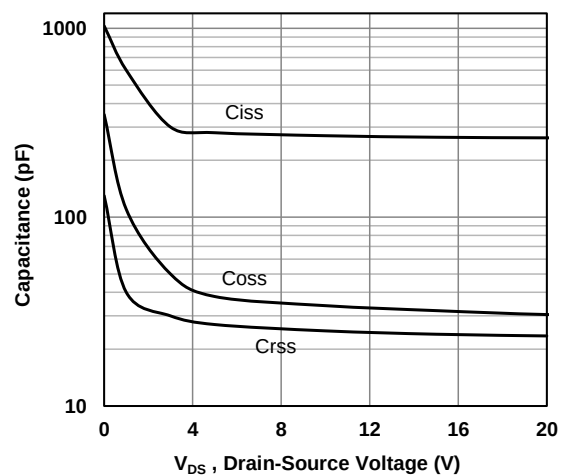
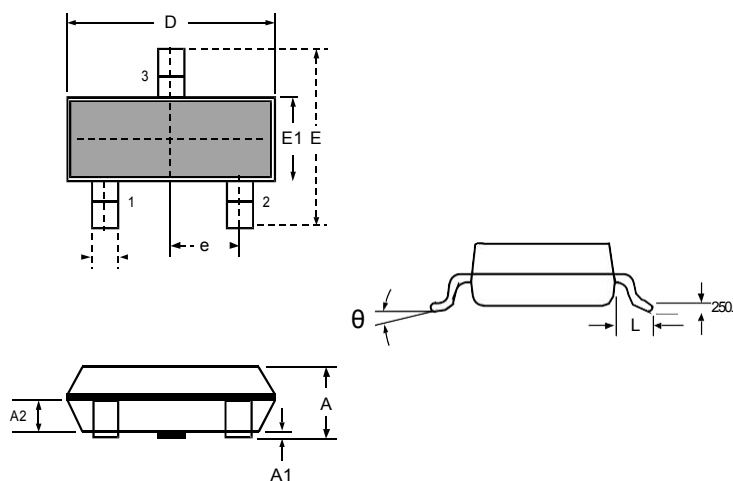


Fig6 Typical Capacitance Vs. Drain-Source Voltage

Summary of Packing Options

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

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°