-60V P-Channel Power MOSFET

V_{DS}	-60V
I_D	-0.13A
$R_{DS(ON)_Typ.}$@V_{GS}=-10V	2.2Ω

DESCRIPTION：

·Epoxy Meets UL 94 V-0 Flammability Rating

·High Density Cell Design For Low RDS(ON)

·Voltage Controlled Small Signal Switch Internal Structure

·Rugged And Reliable

·ESD Protected



SOT-23

MAXIMUM RATINGS (at T_C = 25 °C, unless otherwise specified)

Characteristic	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-60	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	-0.13	A
Pulsed Drain Current, tp<10us(1)	I_{DM}	-0.52	A
Power dissipation	P_D	225	mW
Junction & Storage temperature Range	T_J, T_{STG}	-55~+150	℃

Notes： 1. Repetitive rating: Pulse width limited by junction temperature..

THERMAL CHARACTERISTICS

Characteristic	Condition	Symbol	Value	Unit
Thermal resistance,	Junction to Ambient	$R_{\theta JA}$	556	℃/W

ELECTRICAL CHARATERISTICS (at T_J = 25 °C, unless otherwise specified)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage VGS = 0V, ID = 250uA	$V_{(BR)DSS}$	-60			V
Gate-Source threshold voltage VDS = VGS, ID = -250uA	$V_{GS(th)}$	-0.8	-1.5	-2.5	V
Gate-Source Leakage Current VGS = ±20V, VDS = 0V	I_{GSS}			±10	uA
Zero Gate Voltage Drain Current VDS = -48 V, VGS = 0 V	I_{DSS}			-1	uA
Drain-Source On-State Resistance VGS = -10V, ID = -0.5A VGS = -4.5V, ID = -0.2A	$R_{DS(on)}$		2.2 2.5	6.0 7.0	Ω
Diode Forward Voltage VGS=0V,Is=-0.5A	V_{SD}			-1.3	V
Input capacitance f=1MHz, VDS=-5 V, VGS=0 V	C_{iss}		30		pF
Output capacitance f=1MHz, VDS=-5 V, VGS=0 V	C_{oss}		10		pF
Reverse transfer capacitance f=1MHz, VDS=-5 V, VGS=0 V	C_{rss}		5		pF
Turn-on delay time VDD= -15V, ID=-2.5A, RL=50Ω	$td_{(ON)}$		2.5		ns
Rise time VDD= -15V, ID=-2.5A, RL=50Ω	tr		1.0		ns
Turn-off delay time VDD= -15V, ID=-2.5A, RL=50Ω	$td_{(OFF)}$		16		ns
Fall time VDD= -15V, ID=-2.5A, RL=50Ω	tf		8.0		ns

Typical Performance Characteristics

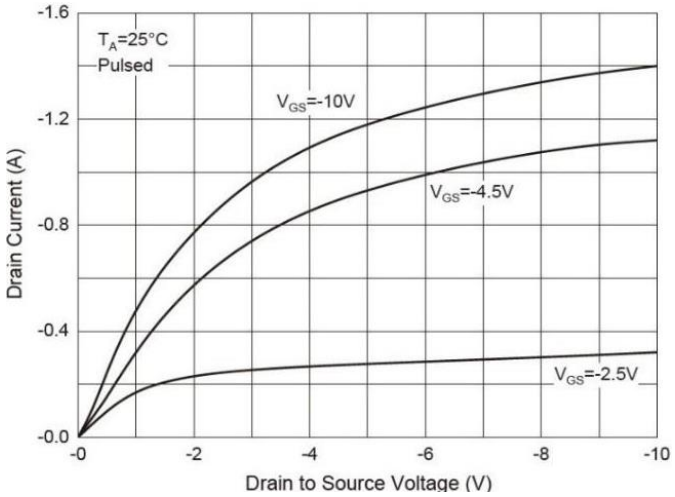


Figure 1. Output Characteristics

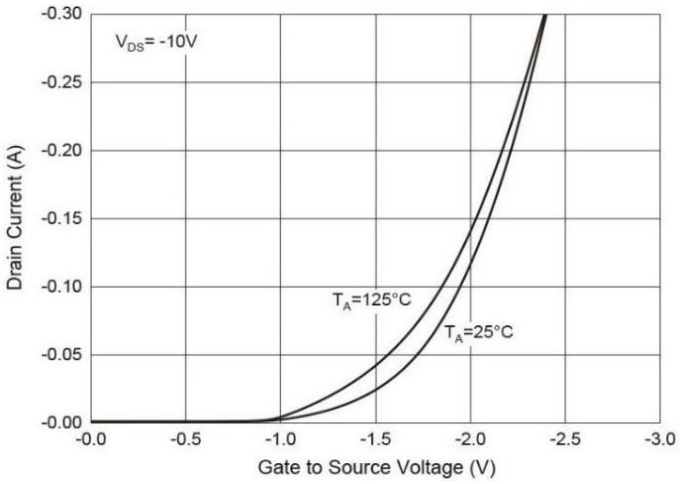


Figure 2. Transfer Characteristics

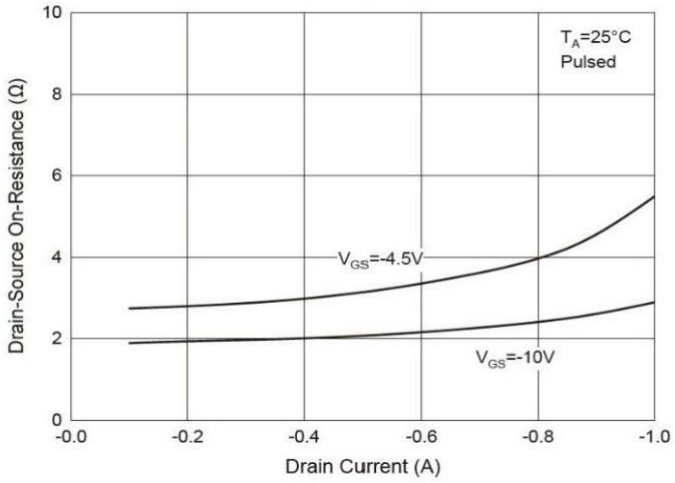


Figure 3. $R_{DS(ON)}$ - I_D

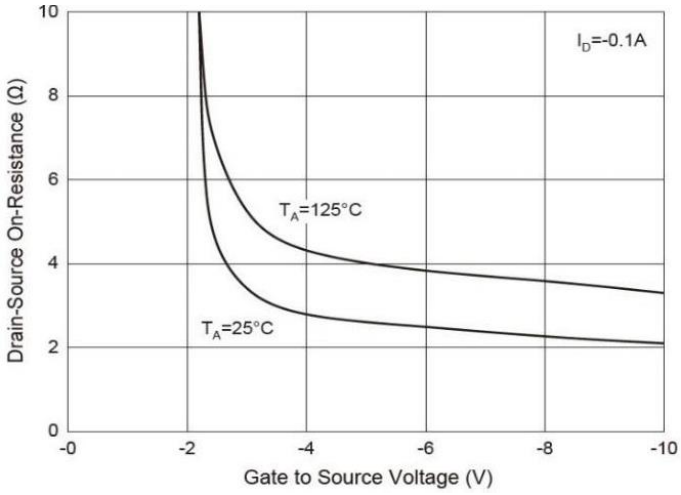


Figure 4. $R_{DS(ON)}$ - V_{GS}

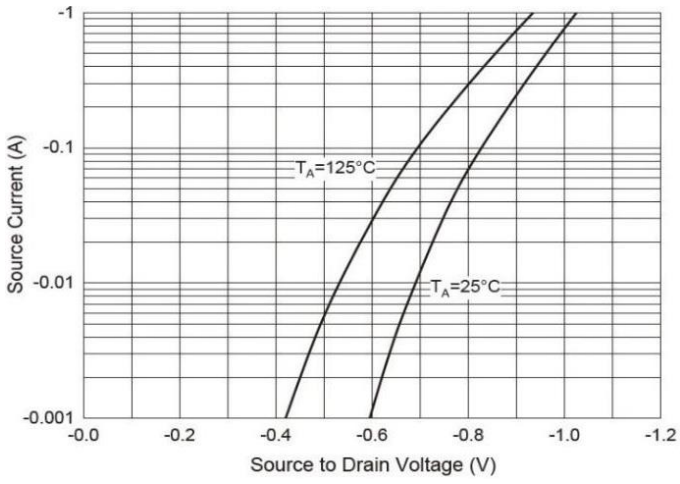


Figure 5. I_S - V_{SD}

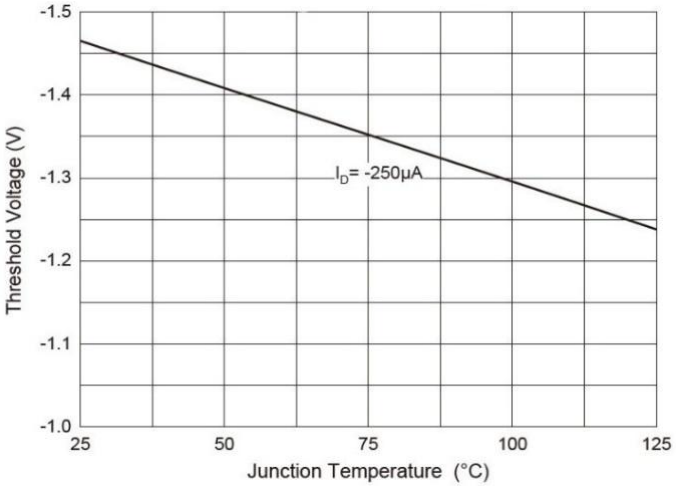
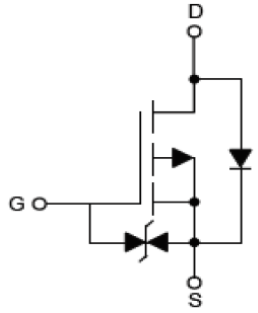
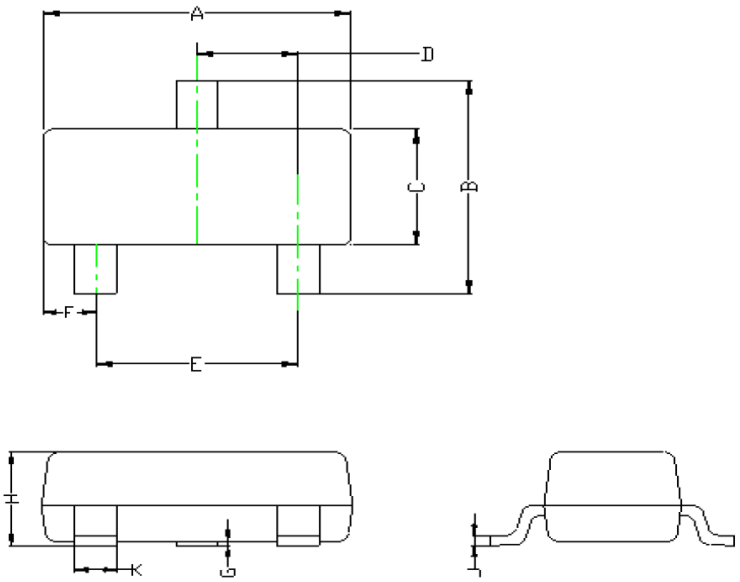


Figure 6. Threshold Voltage

·Circuit diagram



·Package outlines : Dimensions in (mm)



Symbol	Dimensions in mm	
	Min.	Max.
A	2.800	3.040
B	2.100	2.640
C	1.200	1.400
D	0.890	1.030
E	1.780	2.050
F	0.450	0.600
G	0.013	0.100
H	0.900	1.110
J	0.090	0.180
K	0.370	0.510

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