

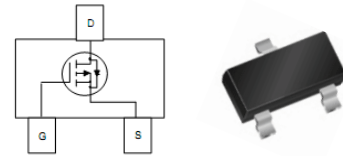
P-Channel Enhancement MOSFET

**RoHS Device
Halogen Free**

■ Features

- Ultra Low On-Resistance
- P-Channel MOSFET
- SOT-23 Footprint
- Low Profile (<1.1mm)
- Available in Tape and Reel
- Fast Switching

SOT-23


■ MAXIMUM RATINGS

Characteristic	Symbol	Max	Unit
Drain-Source Voltage	BV_{DSS}	-12	V
Gate- Source Voltage	V_{GS}	± 8	V
Drain Current (continuous)	I_D	-4.3	A
Drain Current (pulsed)	I_{DM}	-13	A
Total Device Dissipation $T_A=25^\circ\text{C}$	PD	1300	mW
Junction	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55to+150	$^\circ\text{C}$

P-Channel Enhancement MOSFET
■ ELECTRICAL CHARACTERISTICS

(TA=25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage ($I_D = -250\mu A, V_{GS} = 0V$)	BV_{DSS}	-12	—	—	V
Gate Threshold Voltage ($I_D = -250\mu A, V_{GS} = V_{DS}$)	$V_{GS(th)}$	-0.4	—	-0.95	V
Zero Gate Voltage Drain Current ($V_{GS} = 0V, V_{DS} = -12V$) ($V_{GS} = 0V, V_{DS} = -9.6V, T_A = 55^\circ C$)	I_{DSS}	—	—	-1 -25	μA
Gate Body Leakage ($V_{GS} = \pm 8V, V_{DS} = 0V$)	I_{GSS}	—	—	± 100	nA
Static Drain-Source On-State Resistance ($I_D = -4.3A, V_{GS} = -4.5V$)	$R_{DS(ON)}$	—	—	50	$m\Omega$
Static Drain-Source On-State Resistance ($I_D = -2.5A, V_{GS} = -2.5V$)	$R_{DS(ON)}$	—	—	85	$m\Omega$
Static Drain-Source On-State Resistance ($I_D = -2A, V_{GS} = -1.8V$)	$R_{DS(ON)}$	—	—	125	$m\Omega$
Input Capacitance ($V_{GS} = 0V, V_{DS} = -10V, f = 1MHz$)	C_{ISS}	—	830	—	pF
Output Capacitance ($V_{GS} = 0V, V_{DS} = -10V, f = 1MHz$)	C_{OSS}	—	180	—	pF
Turn-ON Time ($V_{DS} = -6V, I_D = -1A, R_{GEN} = 6\Omega$)	$t_{(on)}$	—	11	—	ns
Turn-OFF Time ($V_{DS} = -6V, I_D = -1A, R_{GEN} = 6\Omega$)	$t_{(off)}$	—	250	—	ns

 Pulse Width $\leq 300 \mu s$; Duty Cycle $\leq 2.0\%$

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TYPICAL CHARACTERISTICS

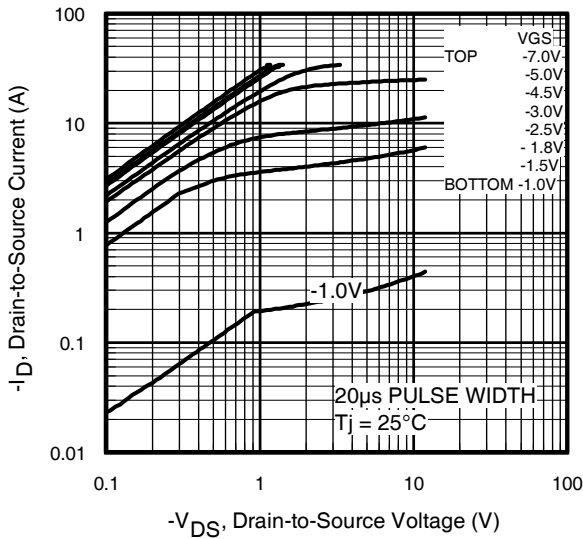


Fig 1. Typical Output Characteristics

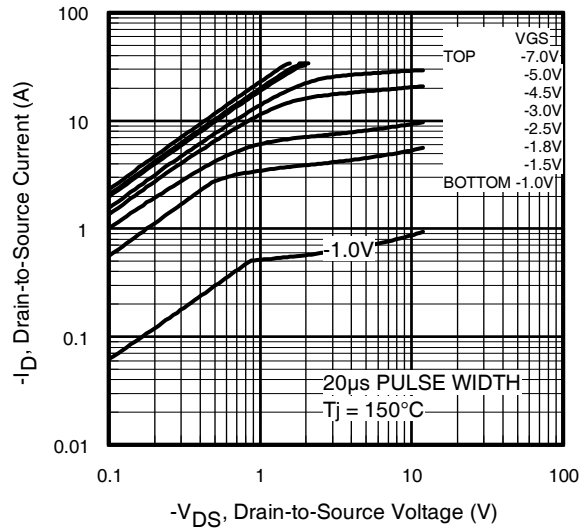


Fig 2. Typical Output Characteristics

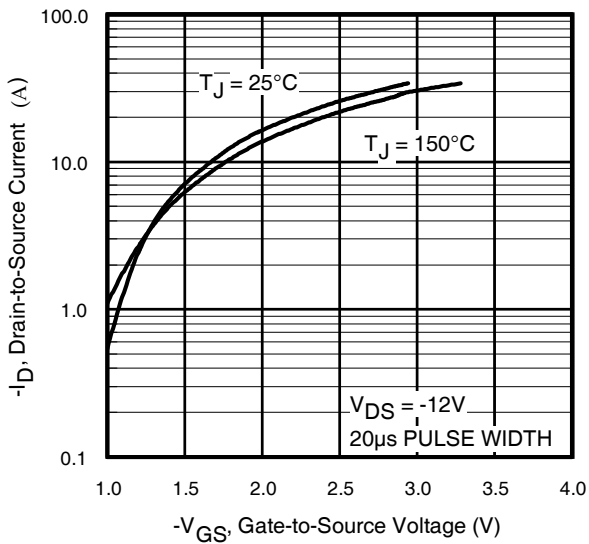


Fig 3. Typical Transfer Characteristics

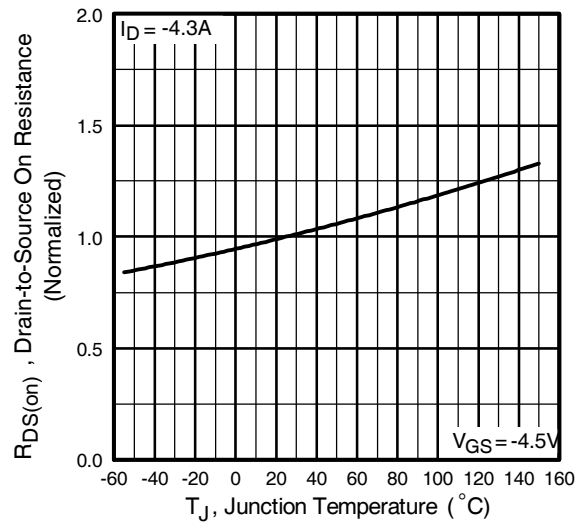


Fig 4. Normalized On-Resistance Vs. Temperature

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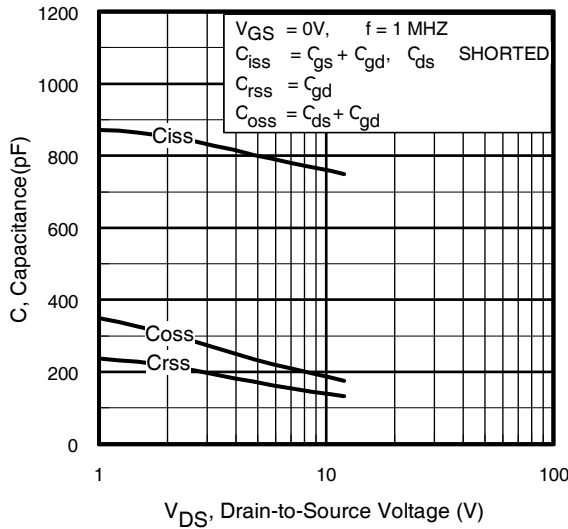


Fig 5. Typical Capacitance Vs. Drain-to-Source Voltage

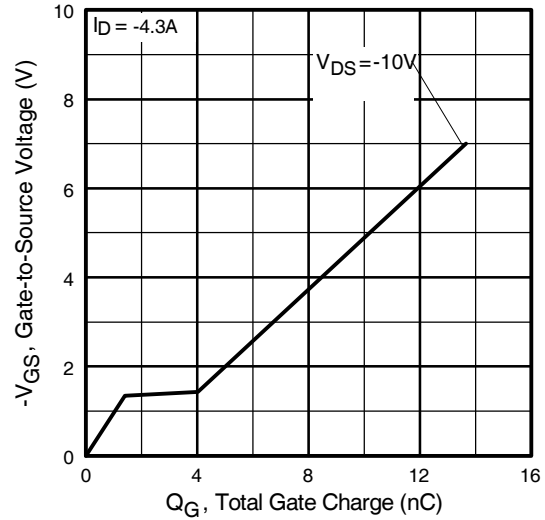


Fig 6. Typical Gate Charge Vs. Gate-to-Source Voltage

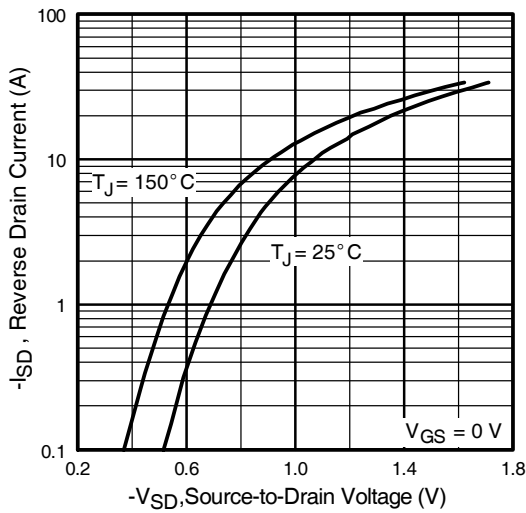


Fig 7. Typical Source-Drain Diode Forward Voltage

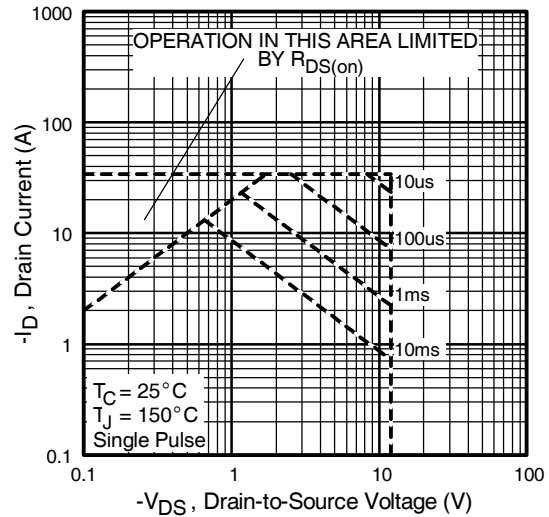
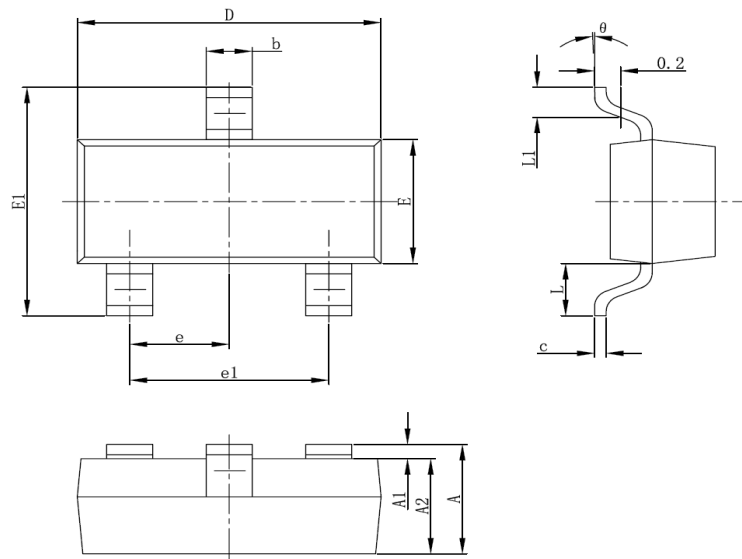


Fig 8. Maximum Safe Operating Area

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■ SOT-23 PACKAGE OUTLINE


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550REF		0.022REF	
L1	0.300	0.500	0.012	0.020
theta	0°	8°	0°	8°