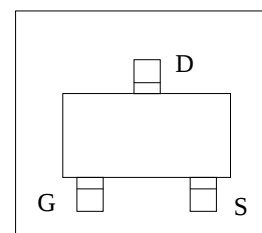
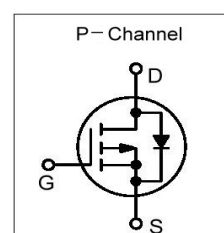
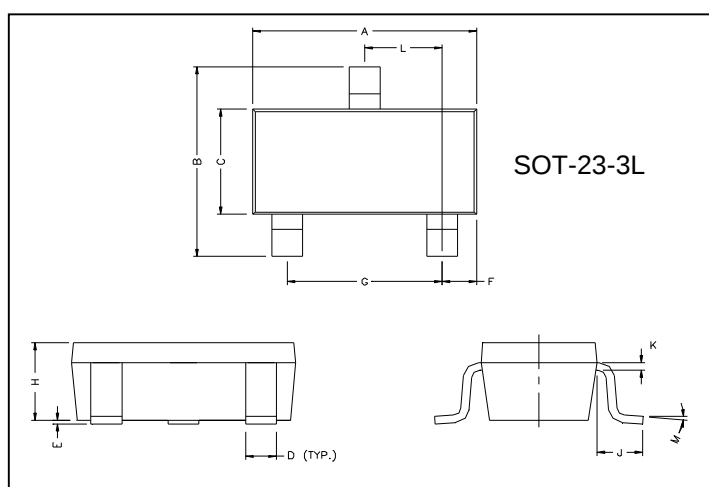


30V P-Channel Enhancement Mode MOSFET

■ Features

- $V_{DS} (V) = -30V$
- $I_D = -2.6 A$ ($V_{GS} = -10V$)
- $R_{DS(ON)} < 130m\Omega$ ($V_{GS} = -10V$)
- $R_{DS(ON)} < 200m\Omega$ ($V_{GS} = -4.5V$)



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.10	G	1.90	REF.
B	2.65	2.95	H	1.00	1.30
C	1.50	1.70	K	0.10	0.20
D	0.35	0.50	J	0.40	-
E	0	0.10	L	0.85	1.15
F	0.45	0.55	M	0°	10°

■ Absolute Maximum Ratings $T_a = 25^{\circ}C$

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current $T_A=25^{\circ}C$ $T_A=70^{\circ}C$	I_D	-2.6	A
		-2.2	
Pulsed Drain Current	I_{DM}	-20	
Power Dissipation $T_A=25^{\circ}C$ $T_A=70^{\circ}C$	P_D	1.4	W
		1	
Thermal Resistance. Junction-to-Ambient	R_{thJA}	100	$^{\circ}C/W$
Thermal Resistance. Junction-to-Case	R_{thJC}	63	$^{\circ}C/W$
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^{\circ}C$

30V P-Channel Enhancement Mode MOSFET

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DS}	$I_D=250\mu A, V_{GS}=0V$	-30			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-24V, V_{GS}=0V$			-1	μA
		$V_{DS}=-24V, V_{GS}=0V, T_J=55^\circ C$			-5	
Gate-Body leakage current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1	-1.9	-3	V
Static Drain-Source On-Resistance	$r_{DS(ON)}$	$V_{GS}=-10V, I_D=-2.6A$		97	130	m Ω
		$V_{GS}=-10V, I_D=-2.6A, T_J=125^\circ C$		135	150	
		$V_{GS}=-4.5V, I_D=-2A$		166	200	m Ω
On state drain current	$I_{D(ON)}$	$V_{GS}=-4.5V, V_{DS}=-5V$	-5			A
Forward Transconductance	g_{fs}	$V_{DS}=-5V, I_D=-5A$	3	3.8		S
Input Capacitance	C_{iss}	$V_{GS}=0V, V_{DS}=-15V, f=1MHz$		302	370	pF
Output Capacitance	C_{oss}			50.3		pF
Reverse Transfer Capacitance	C_{rss}			37.8		pF
Gate resistance	R_g	$V_{GS}=0V, V_{DS}=0V, f=1MHz$		12	18	Ω
Total Gate Charge (10V)	Q_g	$V_{GS}=-4.5V, V_{DS}=-15V, I_D=-2.6A$		6.8	9	nC
Total Gate Charge (4.5V)				2.4		nC
Gate Source Charge				1.6		nC
Gate Drain Charge				0.95		nC
Turn-On DelayTime	$t_{D(on)}$	$V_{GS}=-10V, V_{DS}=-15V, R_L=5.8\Omega, R_{GEN}=3\Omega$		7.5		ns
Turn-On Rise Time	t_r			3.2		ns
Turn-Off DelayTime	$t_{D(off)}$			17		ns
Turn-Off Fall Time	t_f			6.8		ns
Body Diode Reverse Recovery Time	t_{rr}	$I_F=-2.6A, di/dt=100A/\mu s$		16.8	22	ns
Body Diode Reverse Recovery Charge	Q_{rr}	$I_F=-2.6A, di/dt=100A/\mu s$		10		nC
Maximum Body-Diode Continuous Current	I_S				-2	A
Diode Forward Voltage	V_{SD}	$I_S=-1A, V_{GS}=0V$		-0.82	-1	V

* Repetitive rating, pulse width limited by junction temperature.

30V P-Channel Enhancement Mode MOSFET

■ Typical Characteristics

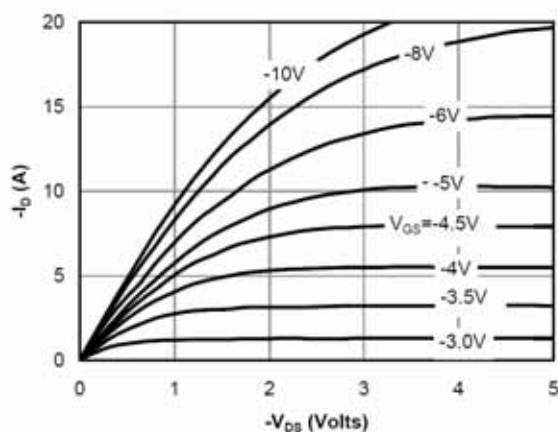


Fig 1: On-Region Characteristics

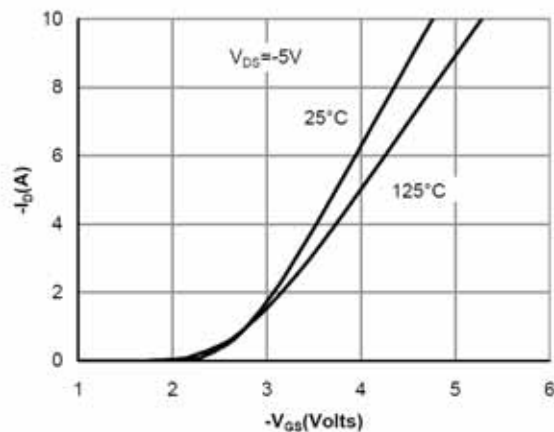


Figure 2: Transfer Characteristics

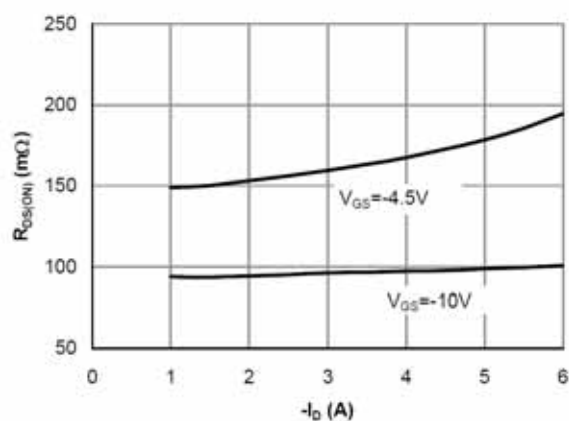


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

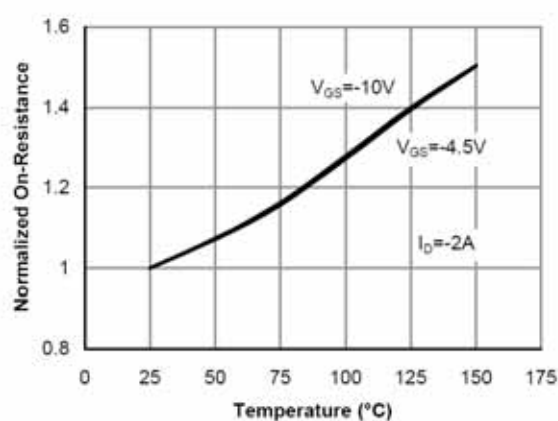


Figure 4: On-Resistance vs. Junction Temperature

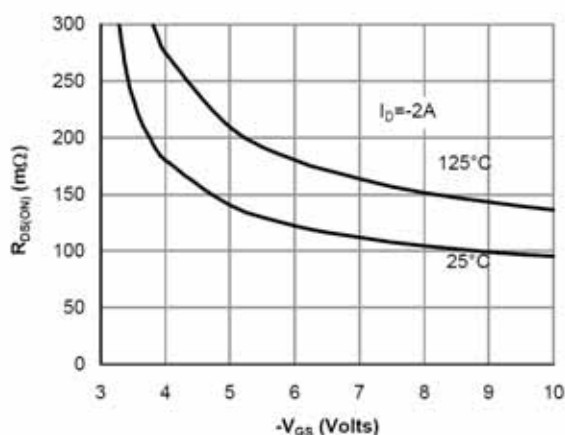


Figure 5: On-Resistance vs. Gate-Source Voltage

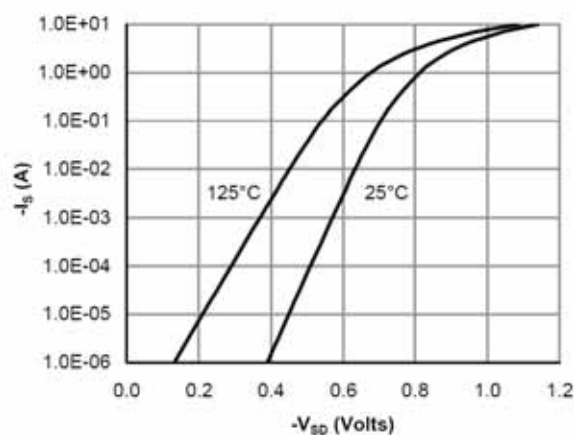


Figure 6: Body-Diode Characteristics

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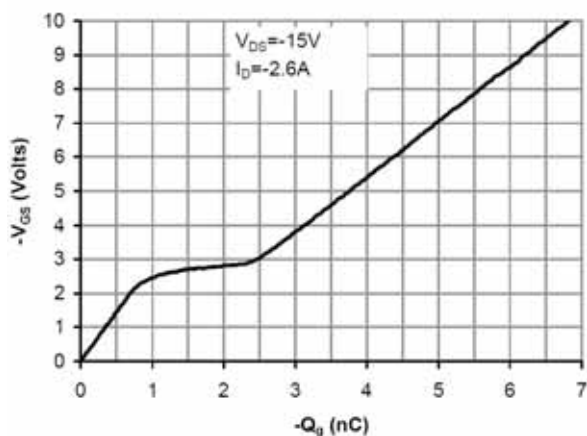


Figure 7: Gate-Charge Characteristics

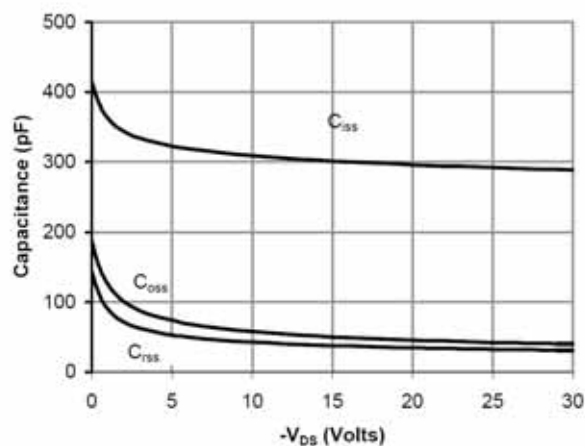


Figure 8: Capacitance Characteristics

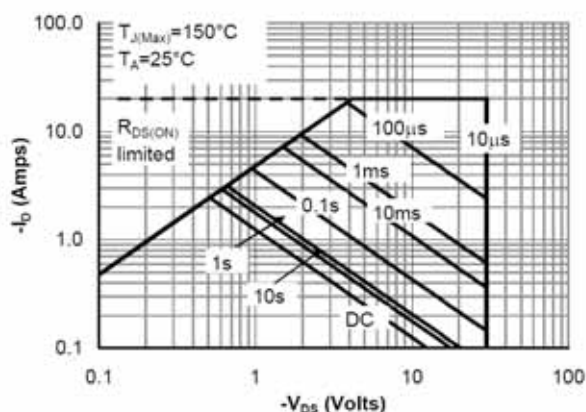


Figure 9: Maximum Forward Biased Safe Operating Area (Note E)

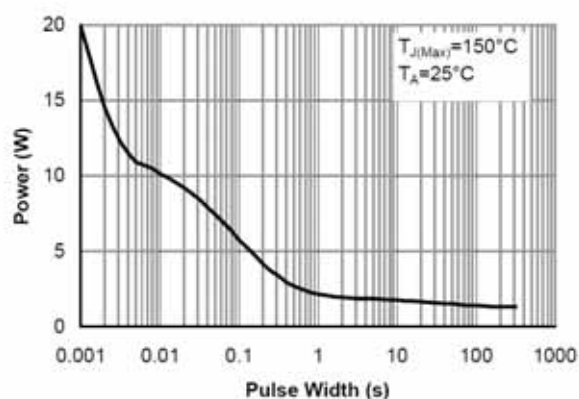


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note E)

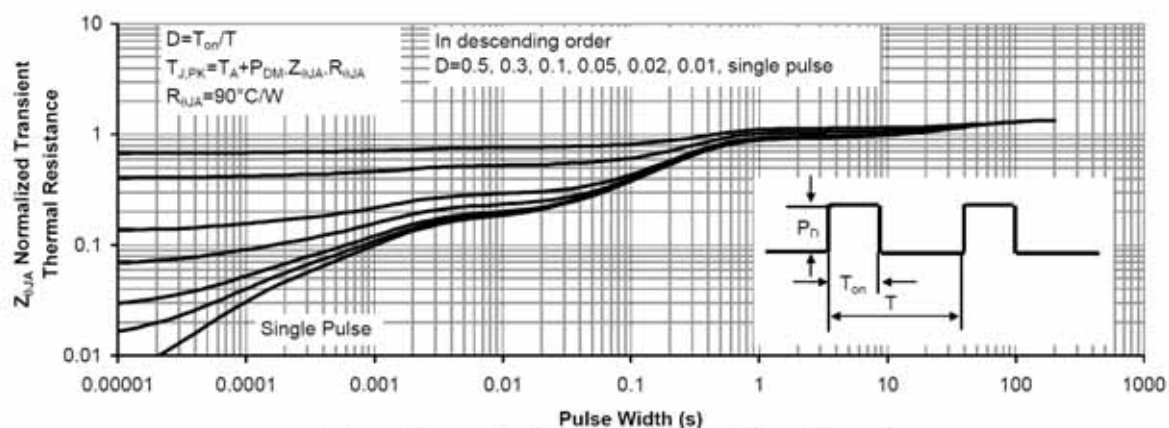


Figure 11: Normalized Maximum Transient Thermal Impedance