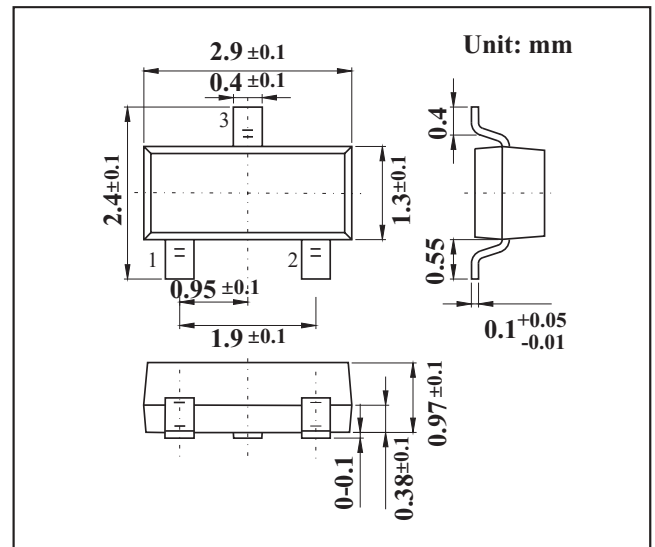


SOT-23 Plastic-Encapsulate MOSFETS
Features

- V_{DS} (V) = -30V
- I_D = -2.6A (VGS = -10V)
- $R_{DS(ON)}$ < 130m (VGS = -10V)
- $R_{DS(ON)}$ < 200m (VGS = -4.5V)
- P-Channel Enhancement Mode Field Effect Transistor

MECHANICAL DATA

- Case style: SOT-23 molded plastic
- Mounting position: any


MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

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



MOSFET ELECTRICAL CHARACTERISTICS Ta=25 °C unless otherwise specified

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit	
Drain-Source Breakdown Voltage	V _{DSS}	I _D =250 μ A, V _{GS} =0V	-30			V	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-24V, V _{GS} =0V			-1	μ A	
		V _{DS} =-24V, V _{GS} =0V, T _J =55°C			-5		
Gate-Body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±100	nA	
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =-250 μ 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°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	Q _{gs}			1.6		nC	
Gate Drain Charge	Q _{gd}			0.95		nC	
Turn-On DelayTime	t _{D(on)}		V _{GS} =-10V, V _{DS} =-15V, R _L =5.8 Ω, R _{GEN} =3 Ω		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/ μ s		16.8	22	ns	
Body Diode Reverse Recovery Charge	Q _{rr}	I _F =-2.6A, di/dt=100A/ μ 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.

RATINGS AND CHARACTERISTIC CURVES

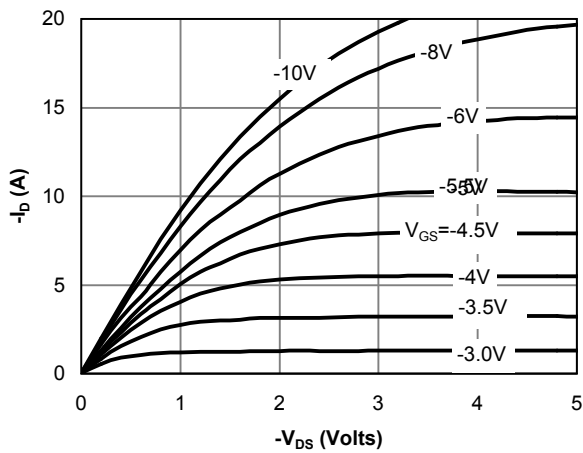


Fig 1: On-Region Characteristics

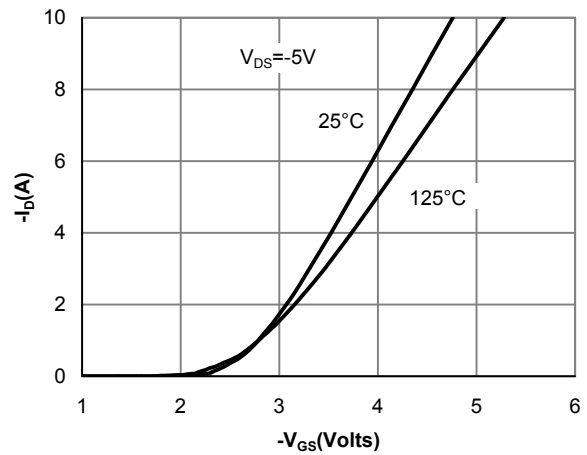


Figure 2: Transfer Characteristics

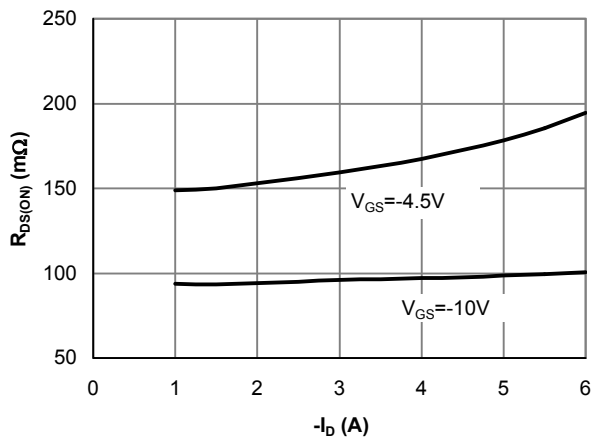


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

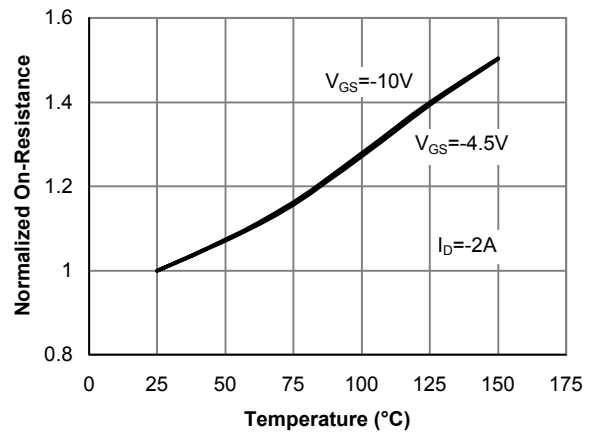


Figure 4: On-Resistance vs. Junction Temperature

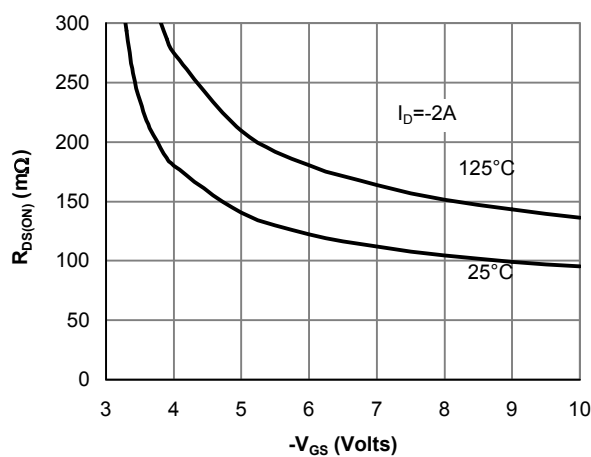


Figure 5: On-Resistance vs. Gate-Source Voltage

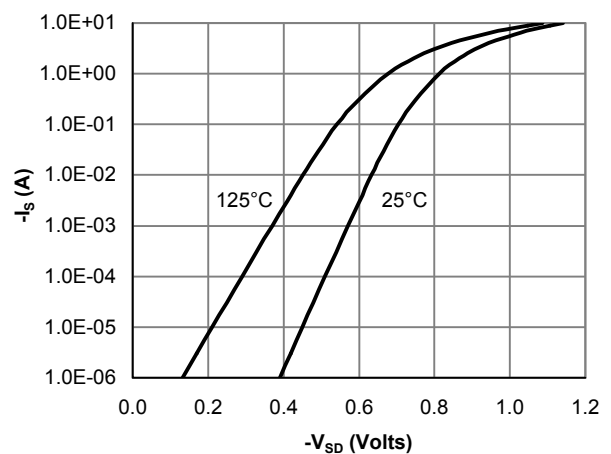


Figure 6: Body-Diode Characteristics

RATINGS AND CHARACTERISTIC CURVES

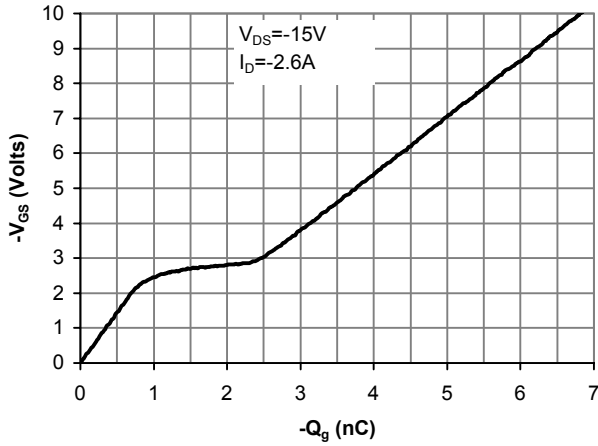


Figure 7: Gate-Charge Characteristics

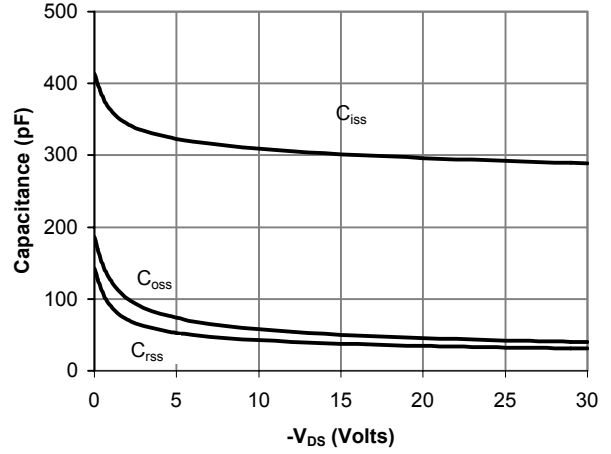


Figure 8: Capacitance Characteristics

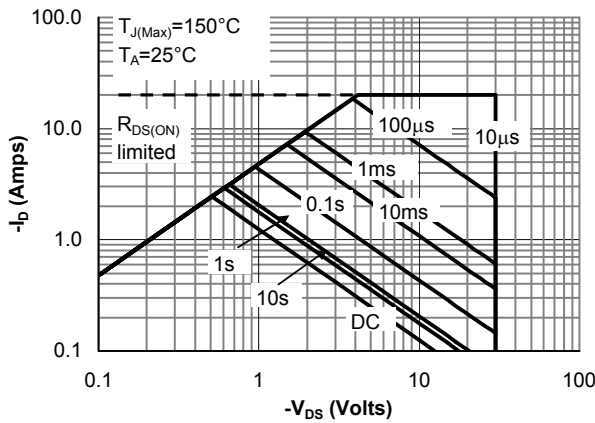


Figure 9: Maximum Forward Biased Safe Operating Area (Note E)

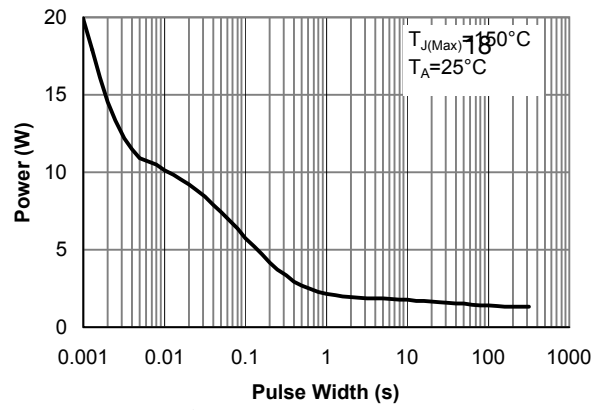


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note E)

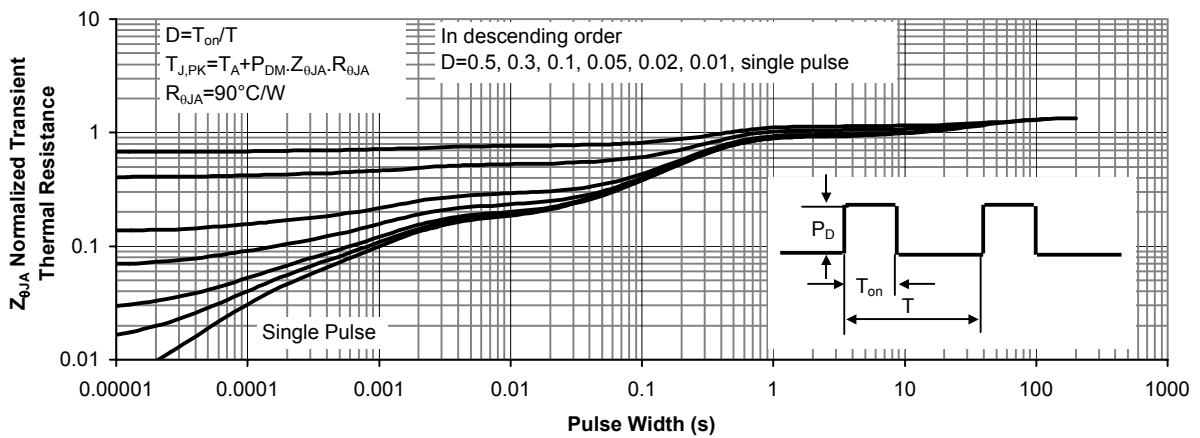


Figure 11: Normalized Maximum Transient Thermal Impedance