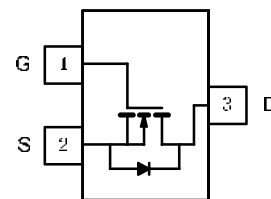
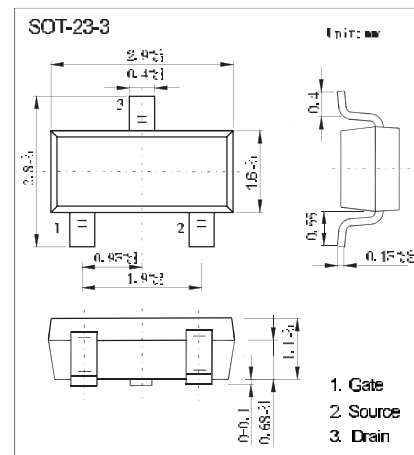


SOT-23-3L Plastic-Encapsulate MOSFETS

N-Channel MOSFET

■ Features

- $V_{DS}(V) = 60V$
- $I_D = 2A$ ($V_{GS} = 10V$)
- $R_{DS(ON)} < 160m\Omega$ ($V_{GS} = 10V$)
- $R_{DS(ON)} < 220m\Omega$ ($V_{GS} = 4.5V$)



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

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	60	V
Gate-Source Voltage		V_{GS}	± 20	
Continuous Drain Current	$T_a = 25^\circ C$	I_D	2	A
	$T_a = 70^\circ C$		1.6	
Pulsed Drain Current		I_{DM}	10	
Power Dissipation	$T_a = 25^\circ C$	P_D	1.25	W
	$T_a = 70^\circ C$		0.8	
Thermal Resistance..Junction- to-Ambient	(Note.1)	R_{thJA}	100	$^\circ C/W$
	(Note.2)		166	
Junction Temperature		T_J	150	$^\circ C$
Storage Temperature Range		T_{stg}	-55 to 150	

Note.1: Surface Mounted on FR4 Board, $t \leq 5$ sec.

Note.2: Surface Mounted on FR4 Board

MOSFET ELECTRICAL CHARACTERISTICS

■ Electrical Characteristics Ta = 25°C

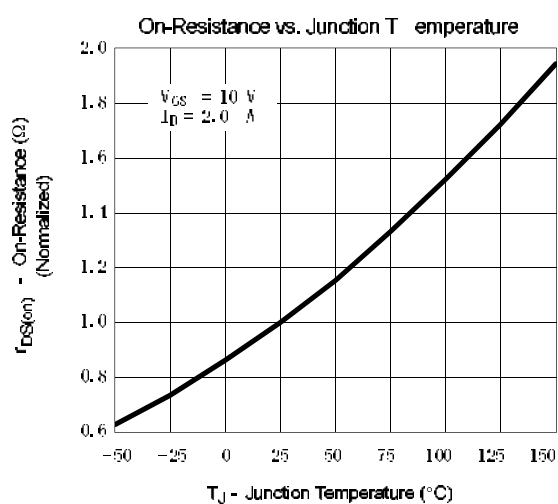
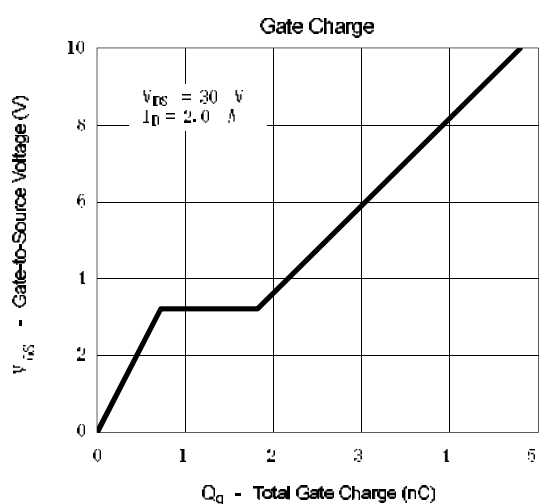
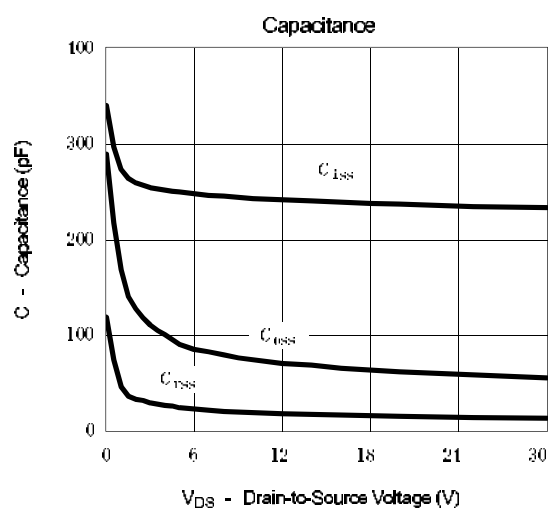
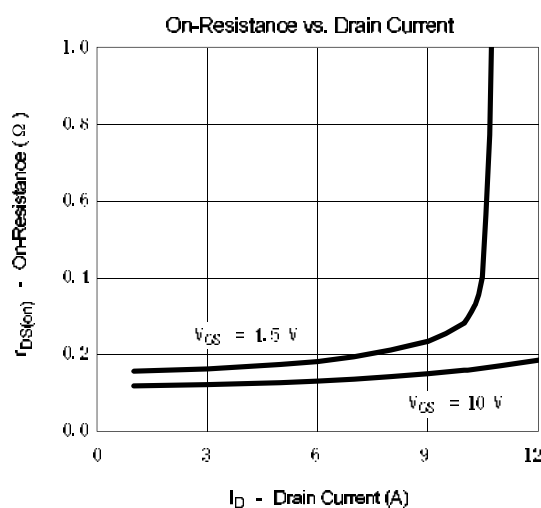
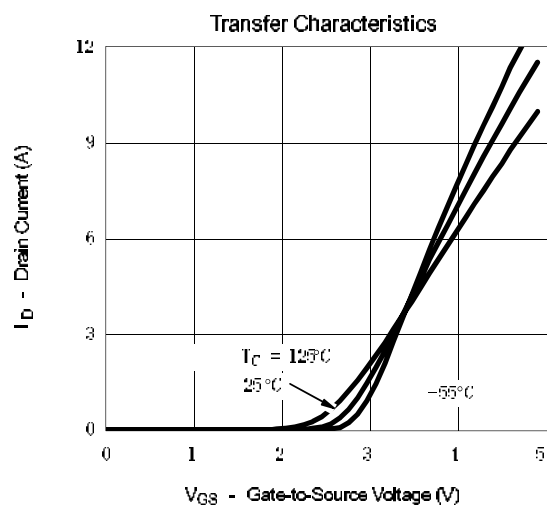
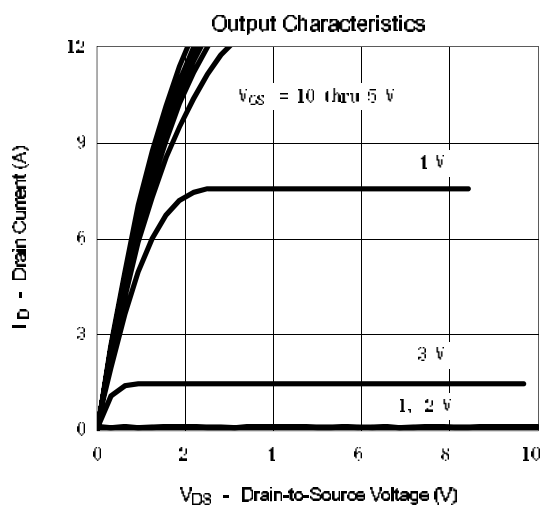
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DSS}	I _D =250 μA, V _{GS} =0V	60			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =60V, V _{GS} =0V			0.5	μA
		V _{DS} =60V, V _{GS} =0V, T _J =55°C			10	
Gate-Body Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250 μA	1.5		3	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10V, I _D =2A			160	mΩ
		V _{GS} =4.5V, I _D =1.7A			220	
On State Drain Current	I _{D(on)}	V _{GS} ≥4.5V, V _{DS} =10V	6			A
		V _{GS} ≥4.5V, V _{DS} =4.5V	4			
Forward Transconductance	g _{FS}	V _{DS} =4.5V, I _D =2A		4.6		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =25V, f=1MHz		240		pF
Output Capacitance	C _{oss}			50		
Reverse Transfer Capacitance	C _{rss}			15		
Gate Resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz	0.5		3.3	Ω
Total Gate Charge	Q _g	V _{GS} =10V, V _{DS} =30V, I _D =2A		4.8	10	nC
Gate Source Charge	Q _{gs}			0.8		
Gate Drain Charge	Q _{gd}			1		
Turn-On DelayTime	t _{d(on)}	V _{GS} =4.5V, V _{DS} =30V, I _D =1A, R _L =30 Ω, R _G =6 Ω		7	15	ns
Turn-On Rise Time	t _r			10	20	
Turn-Off DelayTime	t _{d(off)}			17	35	
Turn-Off Fall Time	t _f			6	15	
Maximum Body-Diode Continuous Current	I _S				1	A
Diode Forward Voltage	V _{SD}	I _S =1A, V _{GS} =0V			1.2	V

Note: Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.

■ Marking

Marking	S10
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Typical Characteristics



Typical Characteristics

