

SOT-23-3 Plastic-Encapsulate Transistors

3415 MOSFET(P-Channel)

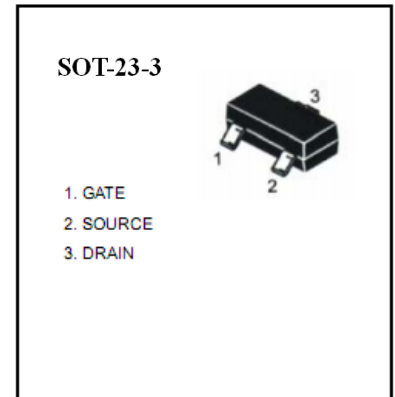
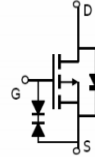
FEATURES

High Power and current handing capability

Lead free product is acquired

Surface Mout Package

ESD Rating:2500V HBM



MAXIMUM RATINGS (TA=25°C unless otherwise noted)

Symbol	Parameter	Value	Units
V _{DS}	Drain-Source voltage	-20	V
V _{GS}	Gate-Source voltage	±10	V
I _D	Drain current	-4	A
P _D	Power Dissipation	1.4	W
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55-150	°C

ELECTRICAL CHARACTERISTICS (T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =-250uA	-20			V
Gate-Threshold Voltage	V _{th(GS)}	V _{DS} = V _{GS} , I _D =-250 uA	-0.4	-0.65	-1.0	V
Gate-body Leakage	I _{GSS}	V _{DS} =0V, V _{GS} =± 10V			± 10	uA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-20V, V _{GS} =0V			-1	uA
Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} =-4. 5V, I _D =-4A		34	47	m Ω
		V _{GS} =-2. 5V, I _D =-4A		44	60	m Ω
Forward Trans conductance	g _{fs}	V _{DS} =-5V, I _D =-4A	8			s
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =-10V, V _{GS} =0V, f=1MHz		950		pF
Output Capacitance	C _{oss}			165		
Reverse Transfer Capacitance	C _{rss}			120		
Switching Capacitance						
Turn-on Delay Time	t _{d(on)}	V _{DD} =-10V, V _{GS} =-4. 5V R _{GEN} =3 Ω		12		nS
Turn-on Rise Time	t _r			10		nS
Turn-off Delay Time	t _{d(off)}			19		nS
Turn-off Fall Time	t _f			25		nS
Total Gate Charge	Q _g	V _{DS} =-10V, I _D =-4A, V _{GS} =-4. 5V,		12		nC
Gate-Source Charge	Q _{gs}			1.4		nC
Gate-Drain Charge	Q _{gd}			3.6		nC
Drain-Source Diode Characteristics						
Diode Forward Voltage	V _{SD}	V _{GS} =0V, I _D =-1A			-1.2	V

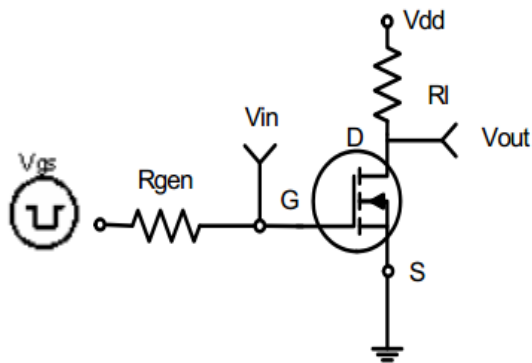


Figure 1: Switching Test Circuit

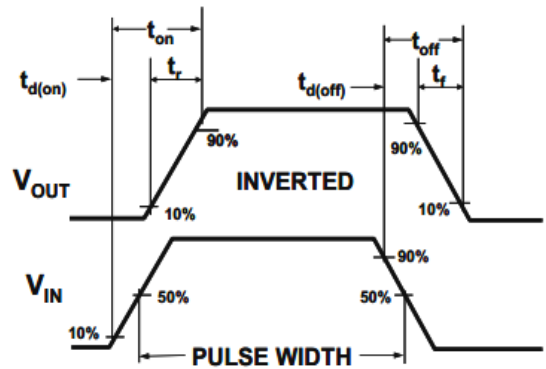


Figure 2: Switching Waveforms

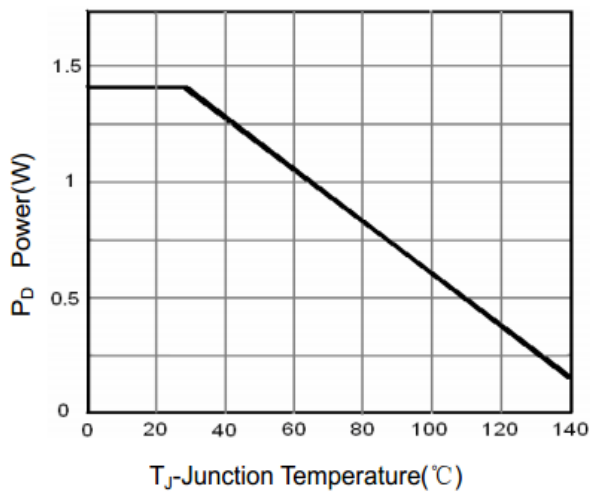


Figure 3: Power Dissipation

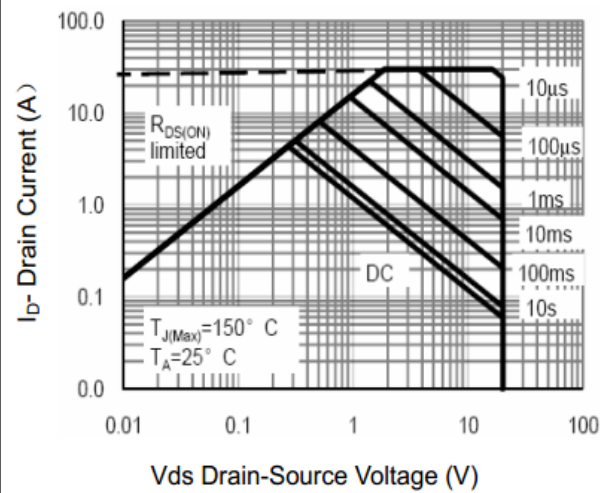


Figure 4: Safe Operation Area

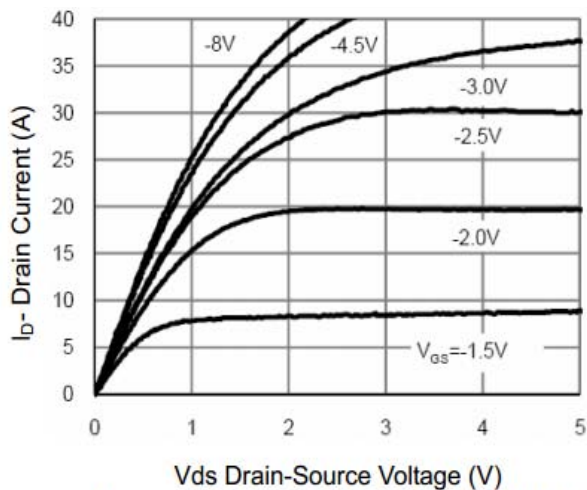


Figure 5: Output CHARACTERISTICS

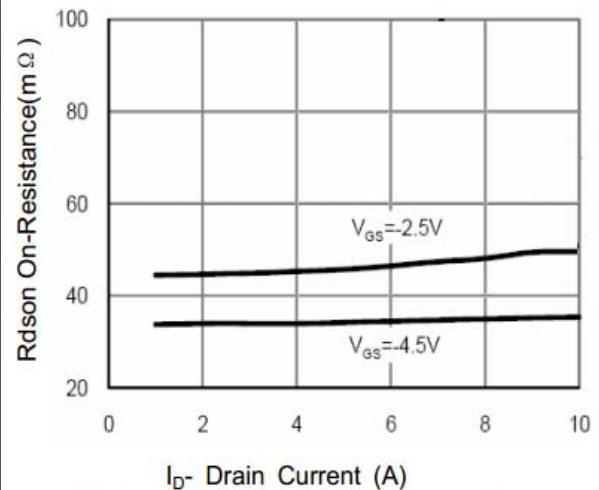


Figure 6: Drain-Source On-Resistance