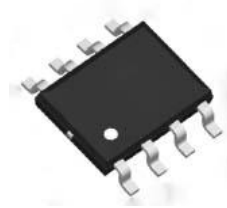


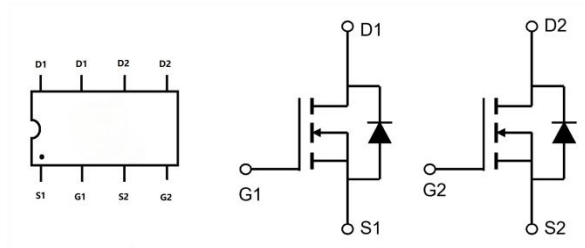
Features

- advanced trench technology
- $V_{DS} = 60V, I_D = 4.5A$ ($V_{GE} = 10V$)
 $R_{DS(ON)} < 80m\Omega$ ($V_{GS} = 10V$)
 $R_{DS(ON)} < 75m\Omega$ ($V_{GS} = 4.5V$)
- 100% UIS Tested
- 100% Rg Tested
- low gate charge



Applications

- Push Pull circuit
- Bridge topologies
- Inverter
- BMS



Absolute Ratings ($T_J = 25^\circ C$ unless otherwise noted, Both N-Channel MOSFET)

Parameter		Symbol	Maximum		Units	
			10 Sec	Steady state		
Drain-Source Voltage		V _{DS}	60		V	
Gate-Source Voltage		V _{GS}	±20		V	
Continuous Drain Current ^A	TA=25°C	I _D	4.5	3.5	A	
	TA=70°C		3.5	3		
Pulsed Drain Current ^B		I _{DM}	20			
Power Dissipation	TA=25°C	P _D	3	1.8	W	
	TA=70°C		1.8	1.2		
Avalanche Current ^B		I _{AR}	10		A	
Repetitive avalanche energy 0.3mH ^B		E _{AR}	10.6		mJ	
Junction and Storage Temperature Range		T _J , T _{STG}	-55~150		°C	
Thermal Characteristics						
Parameter		Symbol	Min	Typ	Max	Units
Maximum Junction-to-Ambient ^A	t ≤ 10s	R _{JA}	-	48	62.5	°C/W
Maximum Junction-to-Ambient ^A	Steady-State		-	74	90	°C/W
Maximum Junction-to-Lead ^C	Steady-State	R _{JL}	-	33	40	°C/W

Electrical Characteristics (T_J=25°C unless otherwise noted, Both N-Channel MOSFET)

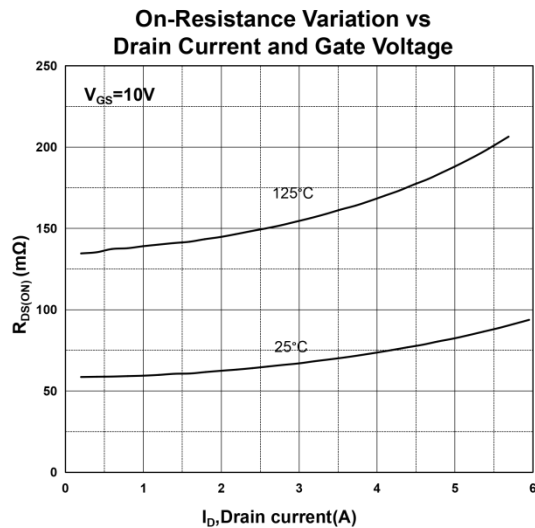
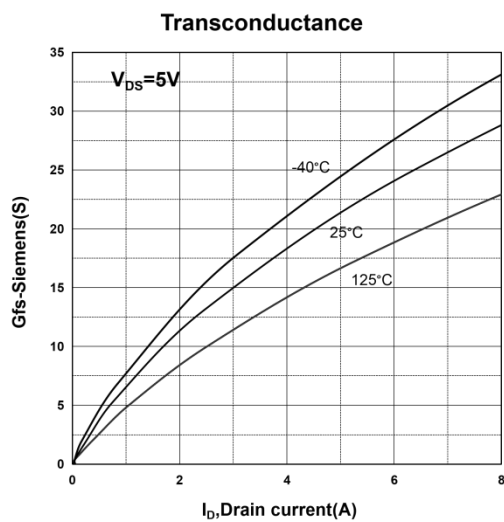
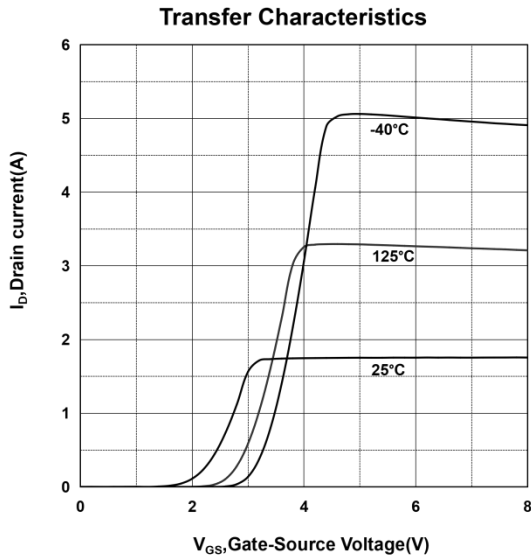
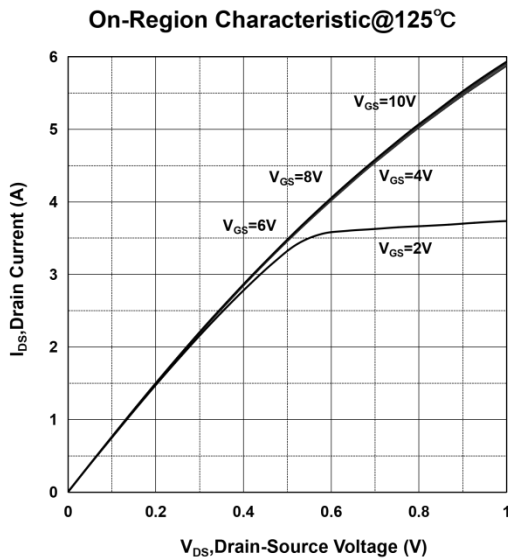
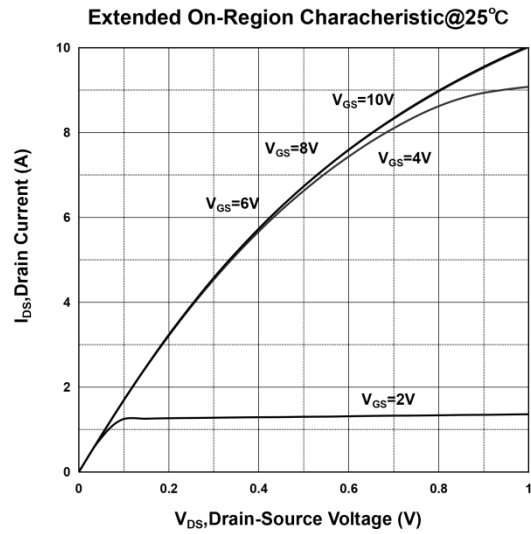
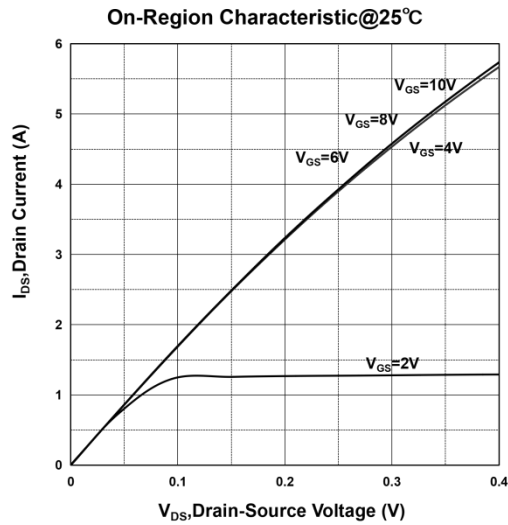
Symbol	Parameter	Conditions	Min	Typ	Max	Units
STATIC PARAMETERS						
BV _{DSS}	Drain-Source Breakdown Voltage	I _D =250A, V _{GS} =0V	60			V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =60V, T _J =25°C			1	A
		V _{GS} =0V, T _J =55°C			5	A
I _{GSS}	Gate-Body leakage current	V _{DS} =0V, V _{GS} = ±20V			100	nA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250μA	1.0	1.3	1.6	V
I _{D(ON)}	On state drain current	V _{GS} =10V, V _{DS} =5V	20			A
R _{DS(ON)}	Static Drain-Source On-Resistance	V _{GS} =10V, T _J =25°C		67	80	mΩ
		I _D =3A, T _J =125°C		130	140	
		V _{GS} =4.5V, I _D =5A		61	75	mΩ
g _{FS}	Forward Transconductance	V _{DS} =5V, I _D =3A		15		S
V _{SD}	Diode Forward Voltage	I _S =3A, V _{GS} =0V		0.84	1	V
I _{SM}	Pulsed Body-Diode Current ^B				25	A
I _S	Maximum Body-Diode Continuous Current				3.0	A
DYNAMIC PARAMETERS						
C _{iss}	Input Capacitance	V _{GS} =0V, V _{DS} =30V, f=1MHz		372	450	pF
C _{oss}	Output Capacitance			31		pF
C _{rss}	Reverse Transfer Capacitance			17		pF
R _g	Gate resistance	V _{GS} =0V, V _{DS} =0V,		1.7	2.6	Ω
SWITCHING PARAMETERS						
Q _g (10V)	Total Gate Charge	V _{GS} =10V, V _{DS} =30V, I _D =3A		7.1	9.2	nC
Q _g (4.5V)	Total Gate Charge			3.6		nC
Q _{gs}	Gate Source Charge			1		nC
Q _{gd}	Gate Drain Charge			2		nC
t _{D(on)}	Turn-On DelayTime	V _{GS} =10V, V _{DS} =30V, R _L =10, R _{GEN} =3Ω		4.1	5.3	ns
t _r	Turn-On Rise Time			2.1		ns
t _{D(off)}	Turn-Off DelayTime			15		ns
t _f	Turn-Off Fall Time			2.1		ns
t _{rr}	Body Diode Reverse Recovery Time	I _F =3A, dI/dt=100A/s		23.4	29	ns
Q _{rr}	Body Diode Reverse Recovery Charge	I _F =3A, dI/dt=100A/s		23.2		nC

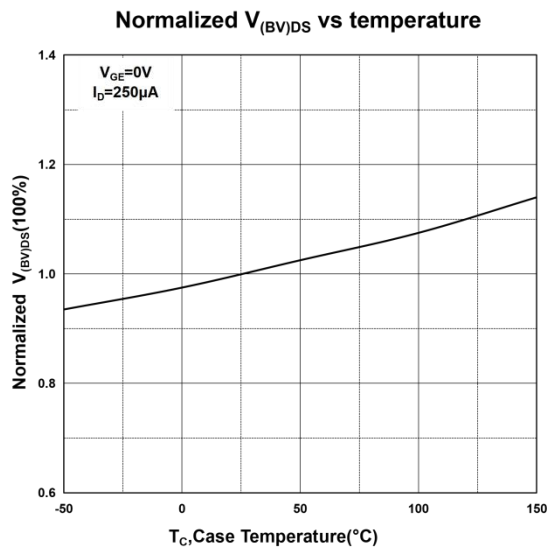
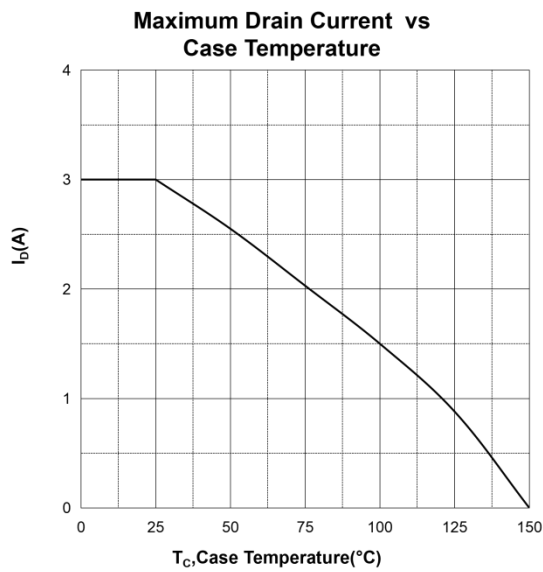
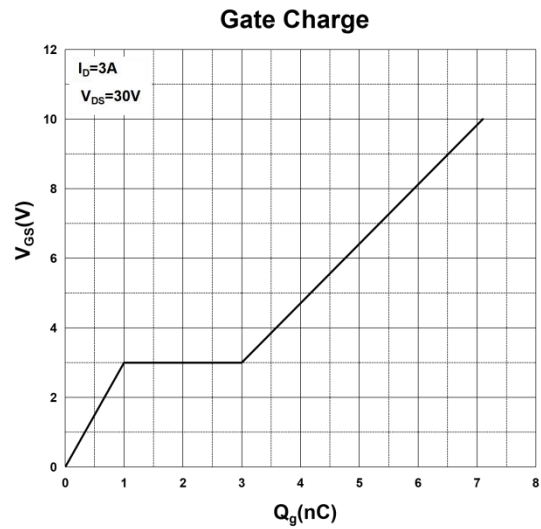
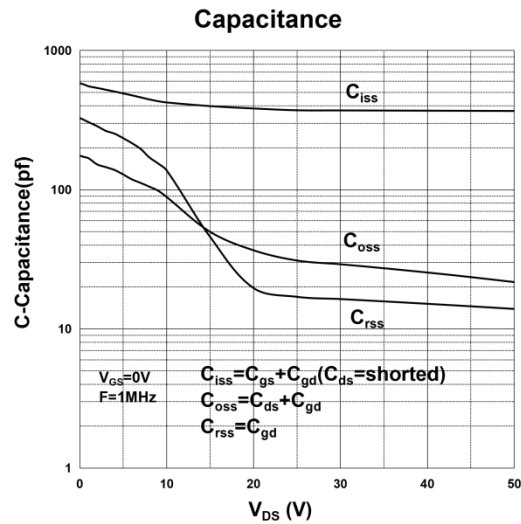
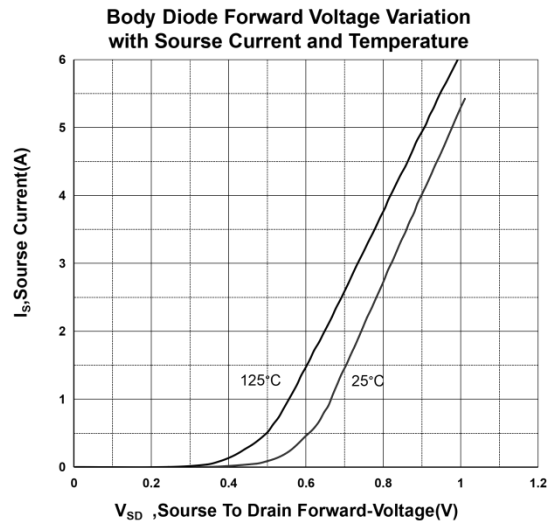
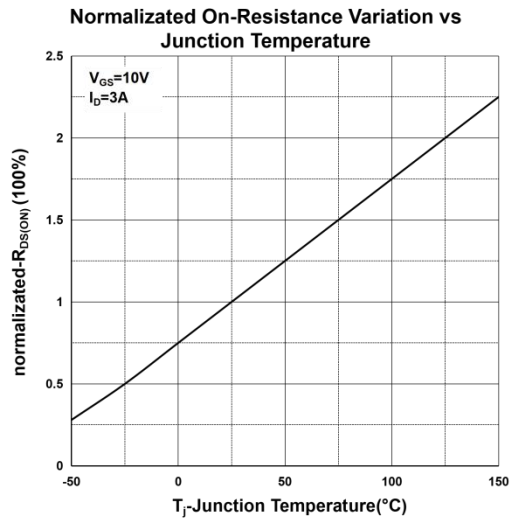
A: The value of R_{JA} is measured with the device mounted on 1in² FR-4 board with 2oz. Copper, in a still air environment with T_A=25°C. The value in any given application depends on the user's specific board design.

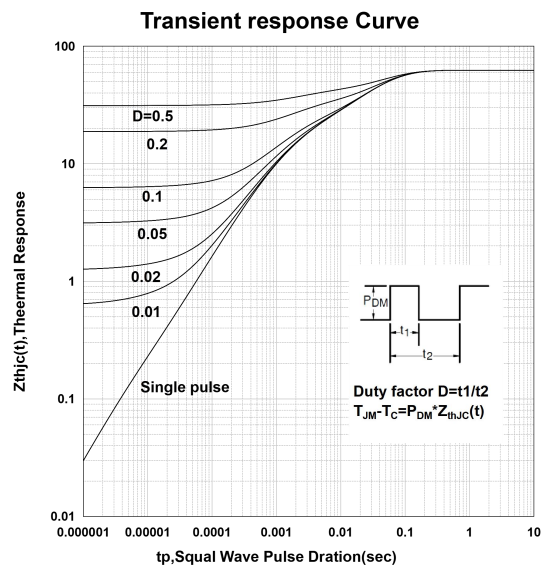
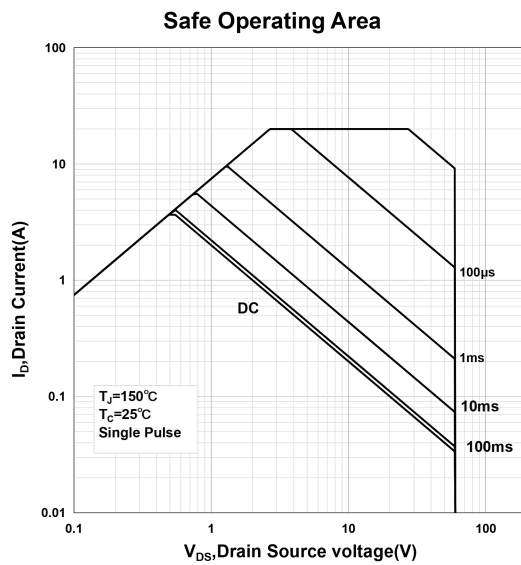
B: Repetitive rating, pulse width limited by junction temperature.

C: The R_{JA} is the sum of the thermal impedance from junction to lead R_{JL} and lead to ambient.

Typical characteristic curve(both N-Channel MOSFET)







Package Mechanical Data

