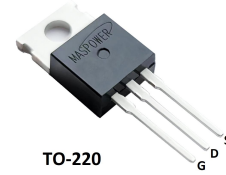


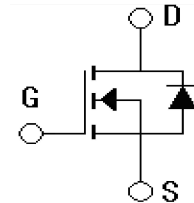
Features

- $V_{DS}=150V, I_D=140A$
 $R_{DS(on)(type)}=5.9m\Omega @ V_{GS}=10V$
- High density cell design for ultra low R_{dson}
- Low gate charge
- Improved dv/dt capability
- RoHS product



Applications

- Power switching application
- Isolated DC/DC converters in Telecom and Industrial
- Synchronous Rectification in DC/DC Converters



Absolute Ratings ($T_c=25^\circ C$, Unless otherwise specified)

Parameter	Symbol		Limit	Unit
Drain-Source Voltage	V _{DSS}		150	V
Transient Gate-Source Voltage	V _{GSM}		±30	V
Continuous Gate-Source Voltage	V _{GSS}		±20	V
Drain Current-continuous	I _D		140	A
Drain Current-pulse(note 1)	I _{DM}		440	A
Single Pulsed Avalanche Energy (note 2)	E _{AS}		1.296	J
Avalanche Current(note 1)	I _{AR}		100	A
Maximum Power Dissipation	P _D	T _C =25℃	277	W
		T _C =100℃	111	W
Operating and Storage Temperature Range	T _J ,T _{STG}		-55~+150	℃

Electrical Characteristics($T_{CASE}=25^\circ C$ unless otherwise specified)

Parameter	Symbol	Tests conditions	Min	Typ	Max	Units
Drain-Source Voltage	BV_{DSS}	$I_D=250\mu A, V_{GS}=0V$	150	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=V_{DSS}, V_{GS}=0V$	-	-	25	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	-	-	± 200	nA
On-Characteristics						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	2	3	4	V

Static Drain-Source On-Resistance ³	$R_{DS(ON)}$	$V_{GS}=10V, I_D=50A$ (note 3)	-	5.9	6.5	mΩ
Forward Transconductance	g_{fs}	$V_{DS}=10V, I_D=70A$	72	-	-	S
Dynamic Characteristics						
Input capacitance	C_{iss}	$V_{DS}=75V,$ $V_{GS}=0V,$ $f=1.0MHz$	-	6000	-	pF
Output capacitance	C_{oss}		-	700	-	pF
Reverse transfer capacitance	C_{rss}		-	10	-	pF

Electrical Characteristics($T_{CASE}=25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Tests conditions	Min	Typ	Max	Units
Switching-Characteristics						
Turn-On delay time	t _{d(on)}	V _{DS} =75V, I _D =70A, R _G =25Ω V _{GS} =10V	-	26	-	ns
Turn-On rise time	t _r		-	36	-	ns
Turn-Off delay time	t _{d(off)}		-	49	-	ns
Turn-Off rise time	t _f		-	17	-	ns
Total Gate Charge	Q _g	V _{DS} =75V, I _D =70A, V _{GS} =10V (note 4)	-	85	-	nC
Gate-Source charge	Q _{gs}		-	34	-	nC
Gate-Drain charge	Q _{gd}		-	14	-	nC
Drain-Source Diode Characteristics and Maximum Ratings						
Continuous Drain-Source Diode Forward Current	V _{SD}	V _{GS} =0V, I _S =10A (note 3)	-	0.73	1.2	V
Diode Forward Current	I _S	T _C =25℃	-	-	140	A
Reverse recovery time	t _{rr}	I _S =25A, dI _S /dt=100A/μs	-	-	150	ns
Reverse recovery charge	Q _{rr}		-	80	-	nC

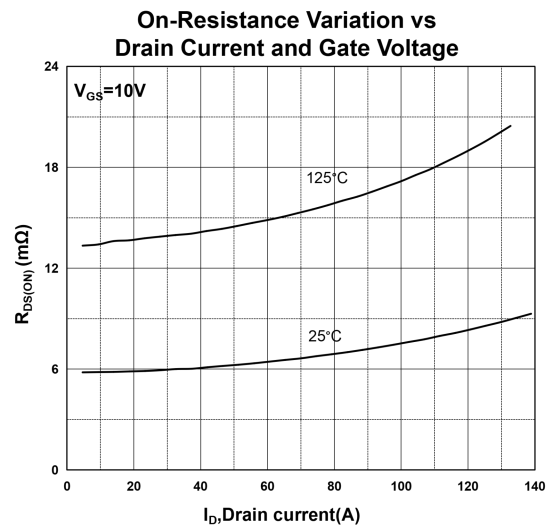
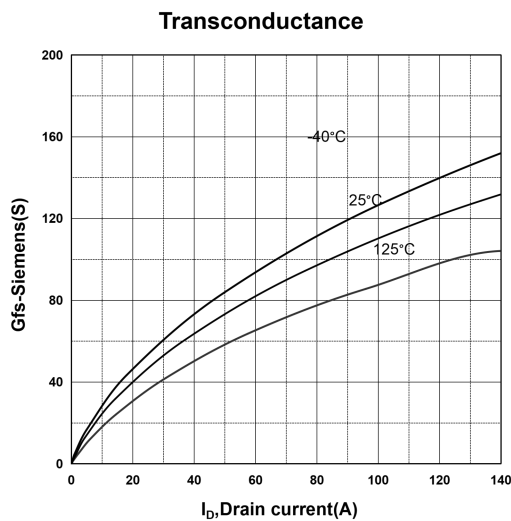
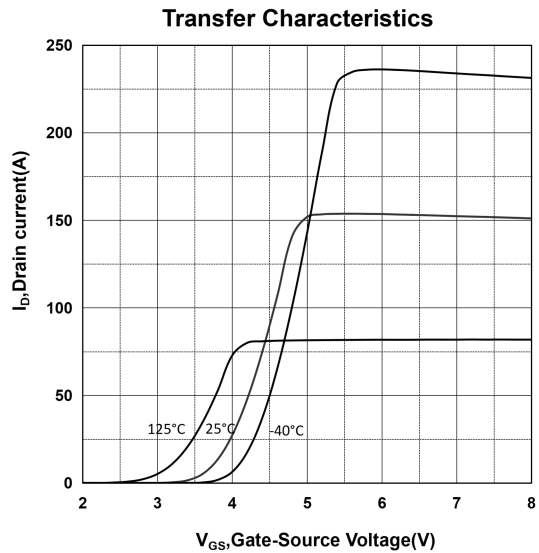
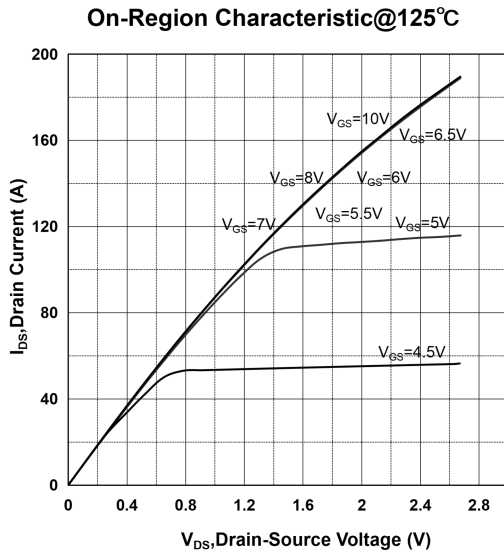
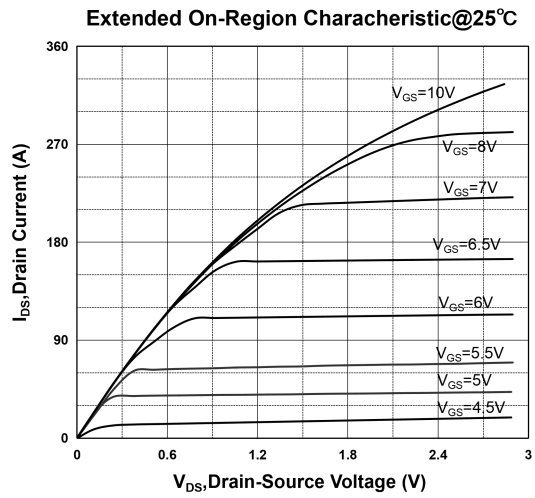
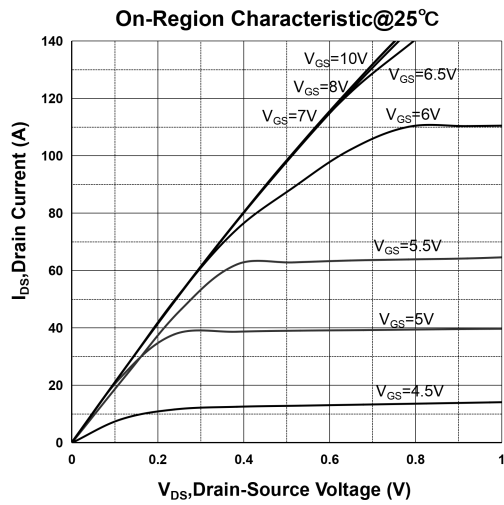
Thermal Characteristic

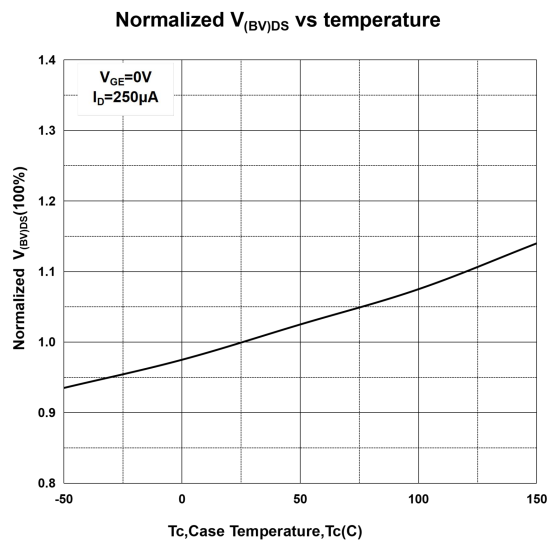
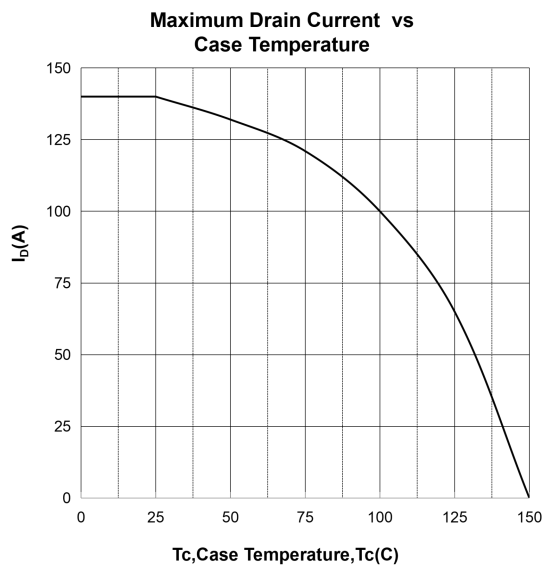
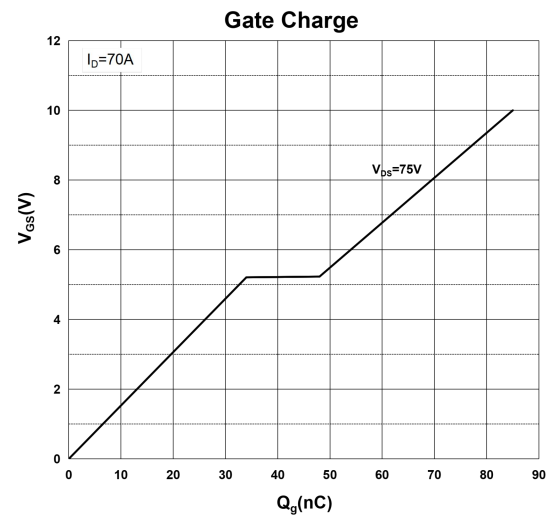
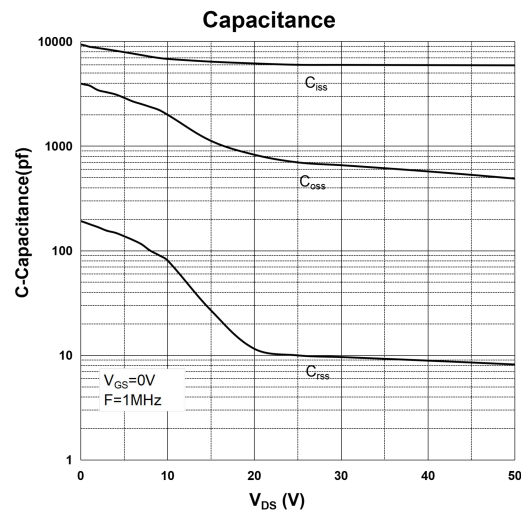
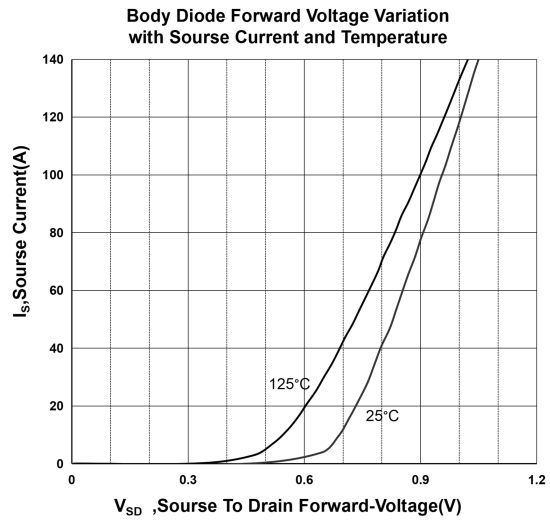
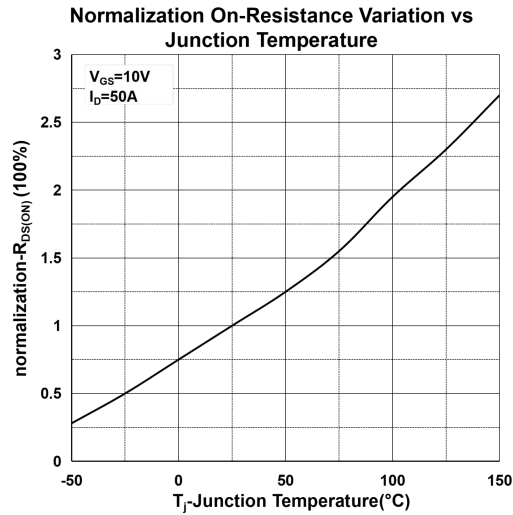
Parameter	Symbol	Value	Unit
Thermal Resistance, junction to Case, Max	$R_{th(j-c)}$	0.45	$^{\circ}C/W$
Thermal Resistance, Junction to Ambient, Max	$R_{th(j-a)}$	50	$^{\circ}C/W$

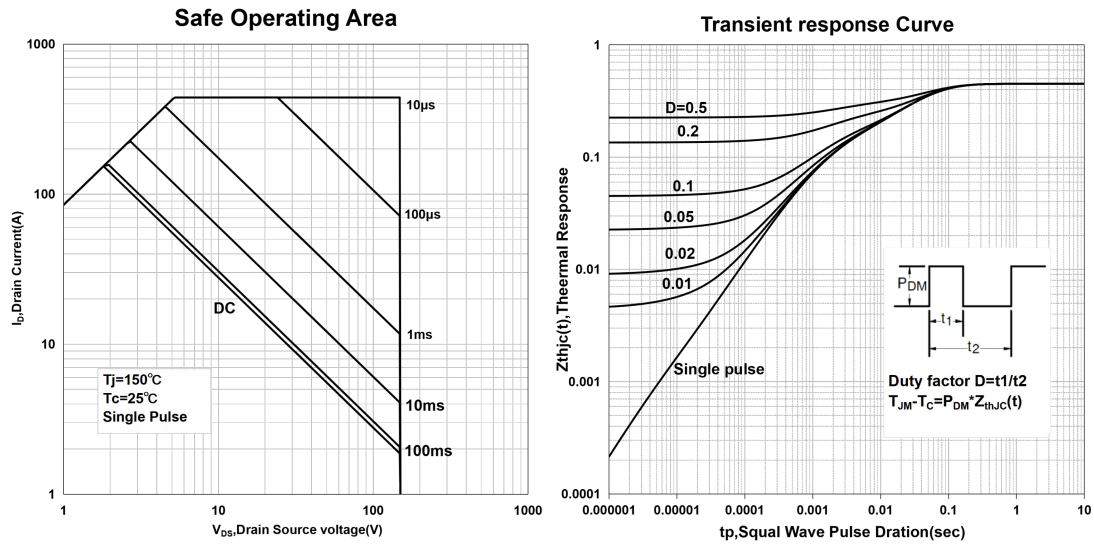
Notes:

- 1: Pulse width limited by maximum junction temperature
- 2: $L=0.5mH, I_{AS}=I_{AR}, V_{DD}=50V, R_G=25\Omega, \text{Starting } T_J=25^{\circ}C$
- 3: Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$
- 4: Essentially independent of operating temperature

Electrical Characteristics







Package Mechanical DATA

