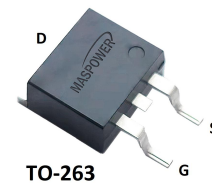


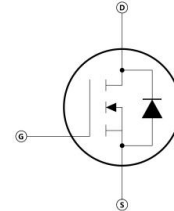
Features

- 100% avalanche tested
- Fast Intrinsic Diode
- Gate charge minimized
- Very low intrinsic capacitances
- High speed switching



Applications

- High Voltage Power Supplies
- PV Inverter
- Switching applications



Electrical ratings

Absolute maximum ratings			
Parameter	Symbol	Value	Unit
Drain-source voltage ($V_{GS} = 0$)	V_{DS}	2500	V
Gate- source voltage	V_{GS}	± 30	
Drain current (continuous) at $T_C = 25\text{ }^{\circ}\text{C}$	I_D	0.5	A
Drain current (continuous) at $T_C = 100\text{ }^{\circ}\text{C}$		0.3	
Drain current (pulsed)	I_{DM}	3	
Total dissipation at $T_C = 25\text{ }^{\circ}\text{C}$	P_D	198	W
Continuous Pulse Avalanche Current	I_{AR}	0.26	A
Single pulse avalanche energy (starting $T_J = 25\text{ }^{\circ}\text{C}$, $I_D = I_{AR}$, $V_{DD} = 50\text{ V}$)	E_{AS}	675	μJ
Operating junction temperature	T_J	-55 ~ 150	$^{\circ}\text{C}$
Storage temperature	T_{stg}		
Maximum lead temperature for soldering purpose	T_L	300	$^{\circ}\text{C}$

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

On /off states						
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-source breakdown voltage	$V_{(BR)DSS}$	$I_D = 250\text{ }\mu\text{A}$, $V_{GS} = 0$	2500			V
Zero gate voltage drain current ($V_{GS} = 0$)	I_{DSS}	$V_{DS} = \text{Max rating}$ $V_{DS} = \text{Max rating}$, $T_C = 125\text{ }^{\circ}\text{C}$			100 1000	μA
Gate-body leakage current ($V_{DS} = 0$)	I_{GSS}	$V_{GS} = \pm 30\text{ V}$			± 200	nA

Gate threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	4.5		6.5	V
Static drain-source on resistance	R _{DS(on)}	V _{GS} = 10V, I _D = 0.5A	-	39	45	Ω
Dynamic						
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Forward trans-conductance	g _{fs}	V _{DS} = 15 V, I _D = 0.25A		200		mS
Input capacitance	C _{iss}	V _{DS} =25V,f=1MHz,V _{GS} =0		232		pF
Output capacitance	C _{oss}			16		
Reverse transfer capacitance	C _{rss}			6		
Total gate charge	Q _g	V _{DD} =1250V,I _D =0.5mA V _{GS} =10V		7.4		nC
Gate-source charge	Q _{gs}			0.7		
Gate-drain charge	Q _{gd}			5.3		
Switching times						
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Turn-on delay time	t _{d(on)}	Resistive load V _{DD} = 1250 V, I _D =0.25A, R _G = 4.7 Ω, V _{GS} = 10 V		16		ns
Rise time	t _r			14		
Turn-off-delay time	t _{d(off)}			35		
Fall time	t _f			37		
Source drain diode						
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Source-drain current	I _{SD}				0.5	A
Source-drain current (pulsed)	I _{SDM}				2	
Forward on voltage	V _{SD}	I _{SD} = 0.5A, V _{GS} = 0			1.3	V
Reverse recovery time	t _{rr}	I _{SD} =0.5A, di/dt=50A/μs V _{DD} = 100 V		1300		ns
Reverse recovery charge	Q _{rr}			9		μC
Reverse recovery current	I _{RRM}			0.3		A
Reverse recovery time	t _{rr}	I _{SD} =0.5A, di/dt=100A/μs V _{DD} = 60V T _J =150°C		1200		ns
Reverse recovery charge	Q _{rr}			8.5		μC
Reverse recovery current	I _{RRM}			0.25		A
Thermal data						

Parameter	Symbol	Value	Unit
Thermal resistance junction-case max	$R_{thj-case}$	0.63	$W/^{\circ}C$
Thermal resistance junction-ambient max	$R_{thj-amb}$	50	

Electrical characteristics

Fig. 1. Output Characteristics @ $T_J = 25^{\circ}C$

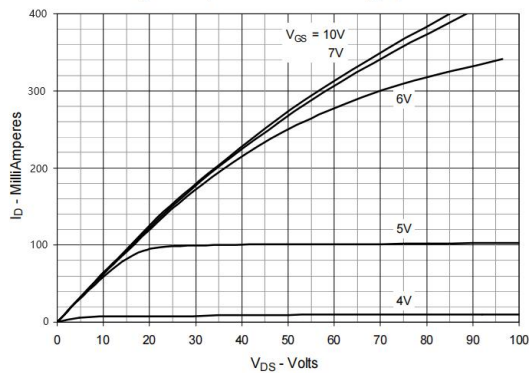


Fig. 2. Extended Output Characteristics @ $T_J = 25^{\circ}C$

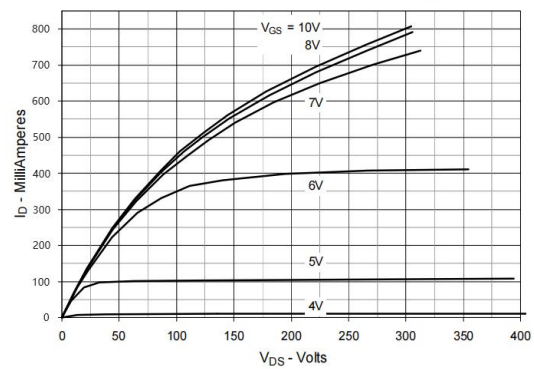


Fig. 3. Output Characteristics @ $T_J = 125^{\circ}C$

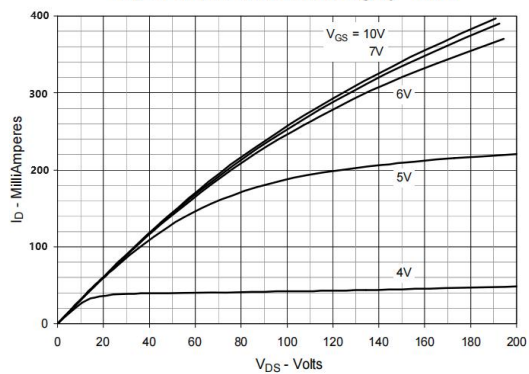


Fig. 4. $R_{DS(on)}$ Normalized to $I_D = 100mA$ Value vs. Junction Temperature

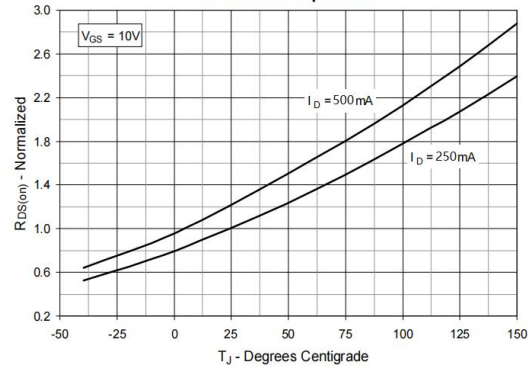


Fig. 5. $R_{DS(on)}$ Normalized to $I_D = 100mA$ Value vs. Drain Current

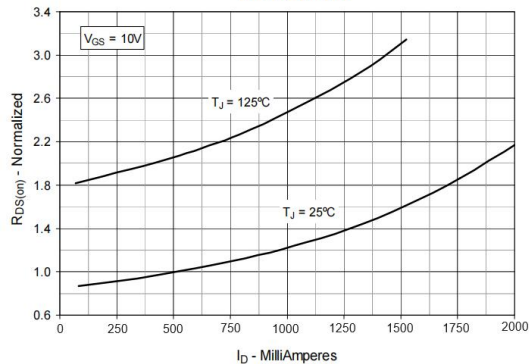


Fig. 6. Maximum Drain Current vs. Case Temperature

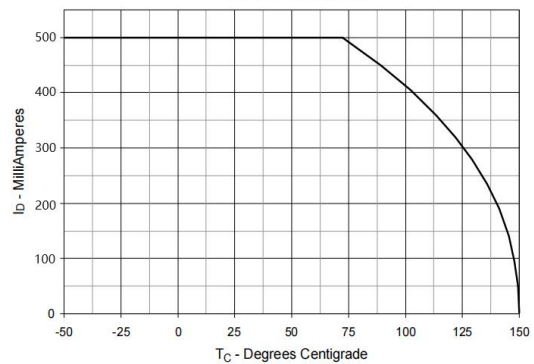


Fig. 7. Input Admittance

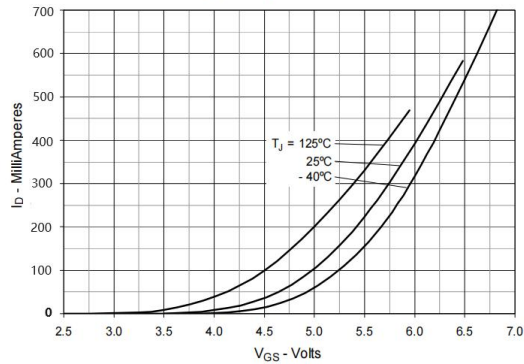


Fig. 8. Transconductance

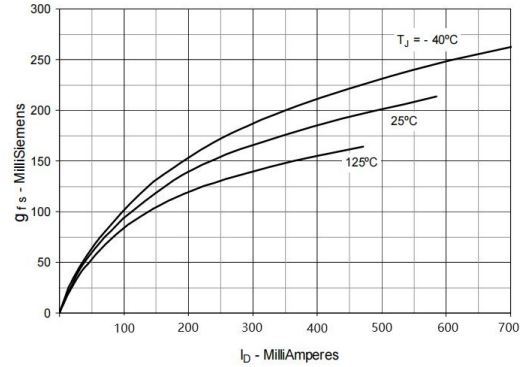


Fig. 9. Forward Voltage Drop of Intrinsic Diode

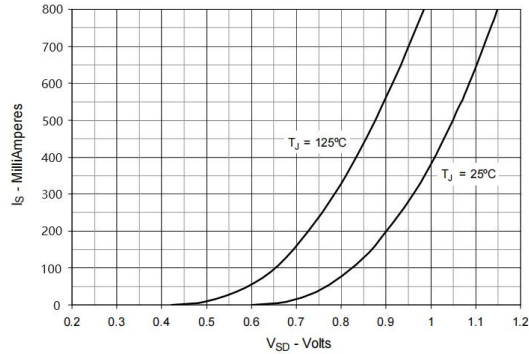


Fig. 10. Gate Charge

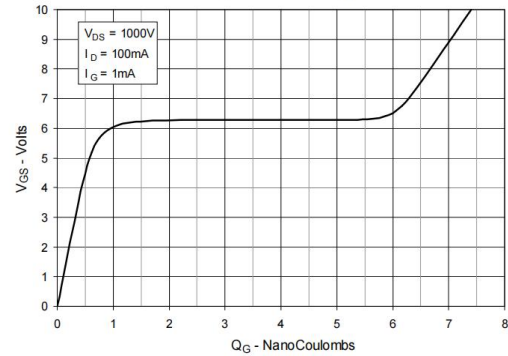


Fig. 11. Capacitance

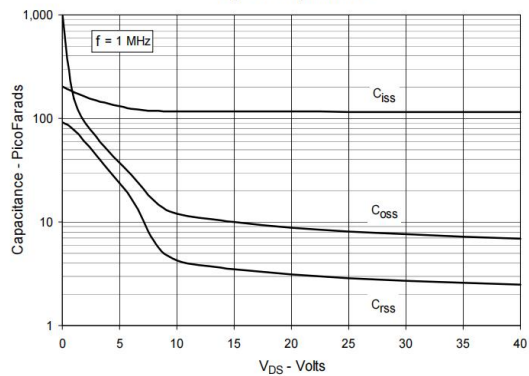


Fig.12 Transient Thermal Response Curve

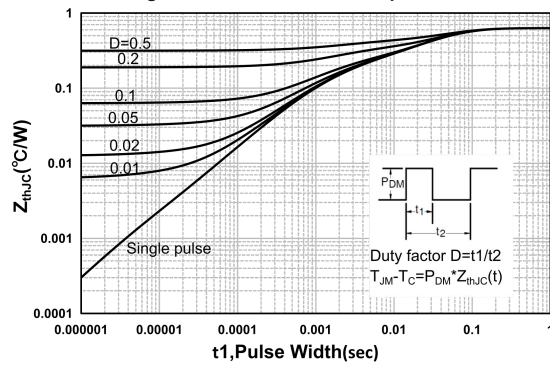
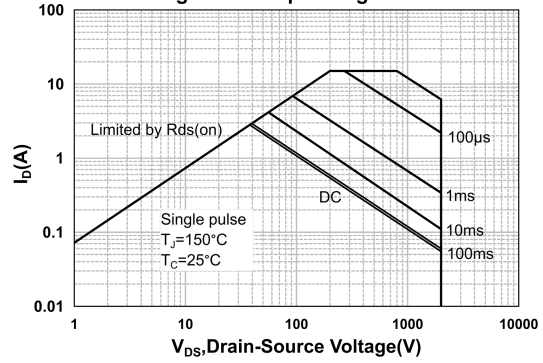


Fig.13 Safe Operating Area



Package outline dimension

