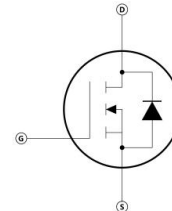
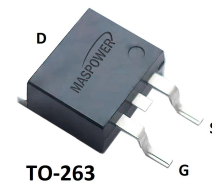


Features

- 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	83	W
Single pulse avalanche energy (starting $T_J = 25\text{ }^\circ\text{C}$, $I_D = I_{AR}$, $V_{DD} = 50\text{ V}$)	E_{AS}		mJ
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 ($T_{vj} = 25\text{ }^\circ\text{C}$ 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	$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = 250\text{ }\mu\text{A}$	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}	$V_{DS} = 15V, I_D = 0.25A$		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 $V_{DD} = 1250V, I_D = 0.25A,$ $R_G = 4.7\Omega, V_{GS} = 10V$		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}	$I_{SD}=0.5A, di/dt=50A/\mu s$ $V_{DD}= 100V$		1300		ns
Reverse recovery charge	Q_{rr}			9		μC
Reverse recovery current	I_{RRM}			0.3		A
Reverse recovery time	t_{rr}	$I_{SD}=0.5A, di/dt=100A/\mu s$ $V_{DD}= 60V T_J=150^\circ C$		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	$R_{thj-case}$	1.5	W/°C
Thermal resistance junction-ambient max	$R_{thj-amb}$	50	

Electrical characteristics

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

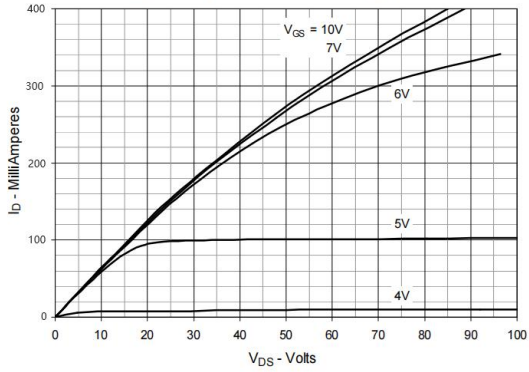


Fig. 2. Extended Output Characteristics @ $T_J = 25^\circ\text{C}$

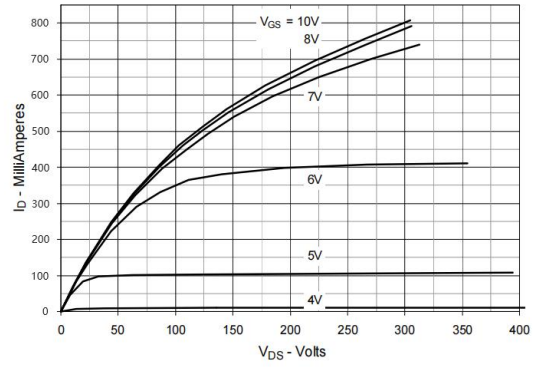


Fig. 3. Output Characteristics @ $T_J = 125^\circ\text{C}$

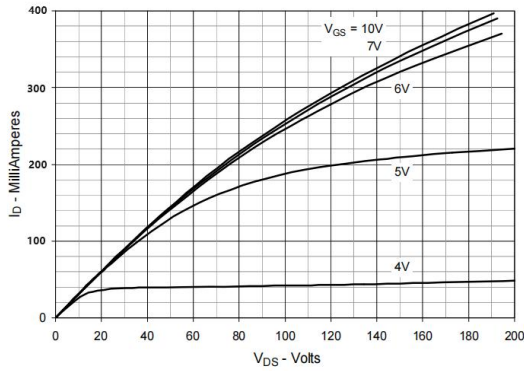


Fig. 4. $R_{DS(on)}$ Normalized to $I_D = 100\text{mA}$ Value vs. Junction Temperature

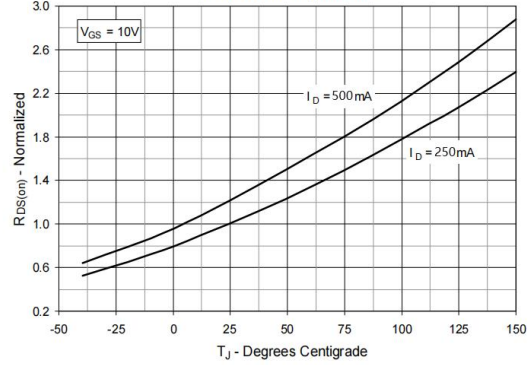


Fig. 5. $R_{DS(on)}$ Normalized to $I_D = 100\text{mA}$ Value vs. Drain Current

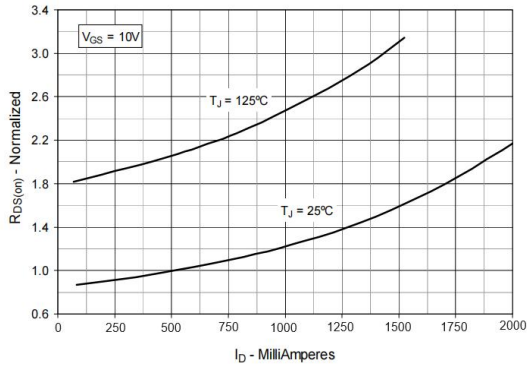


Fig. 6. Maximum Drain Current vs. Case Temperature

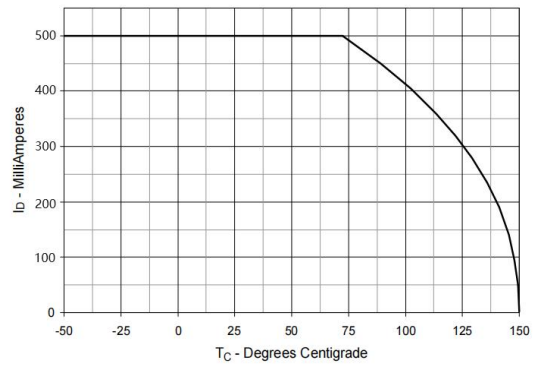


Fig. 7. Input Admittance

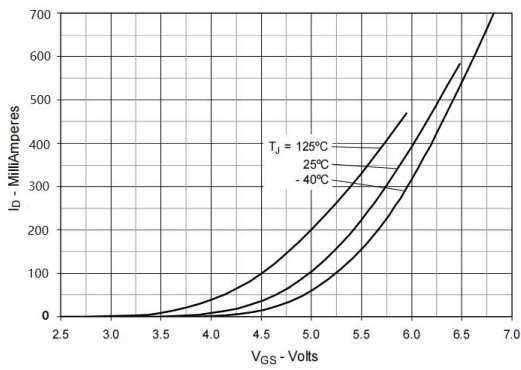


Fig. 8. Transconductance

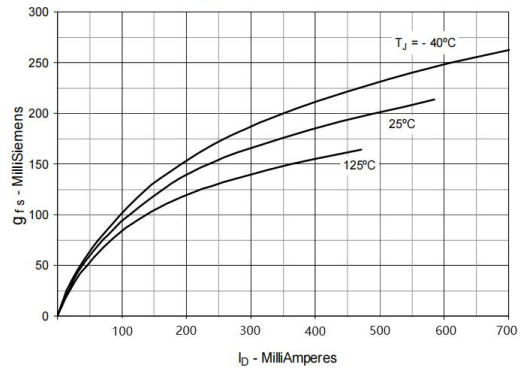


Fig. 9. Forward Voltage Drop of Intrinsic Diode

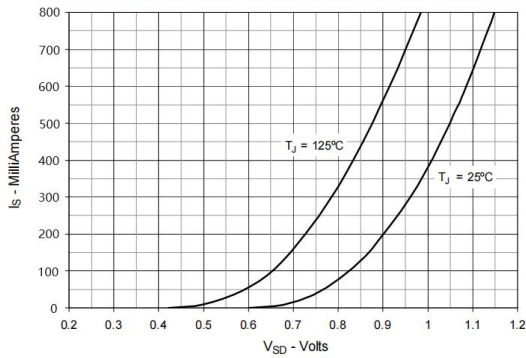


Fig. 10. Gate Charge

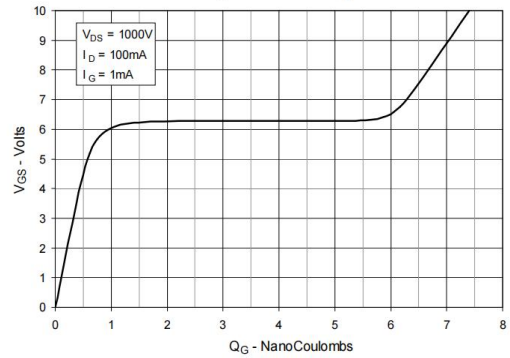


Fig. 11. Capacitance

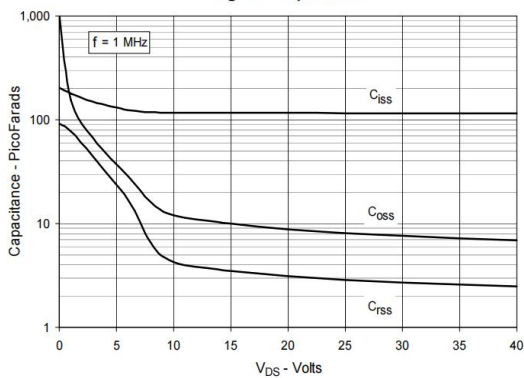


Fig. 12. Maximum Transient Thermal Impedance

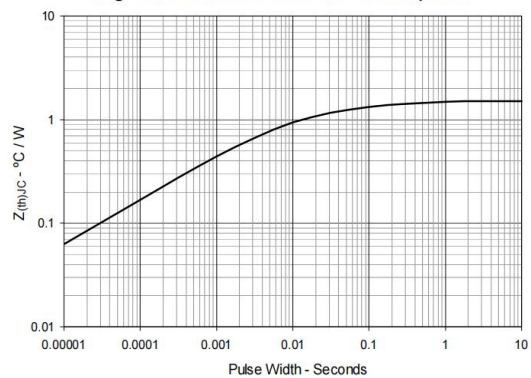


Fig.13 Forward-Bias Safe Operating Area
@T_c=25°C

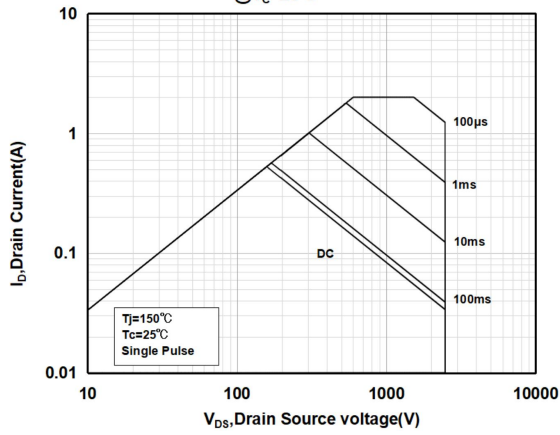
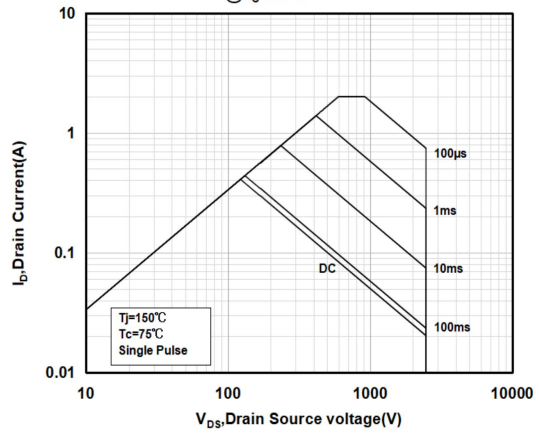


Fig.14 Forward-Bias Safe Operating Area
@T_c=75°C



Package outline dimension

