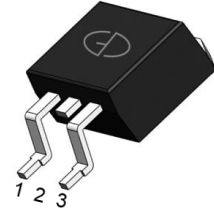


N-Channel 150V (D-S) Power MOSFET

Features

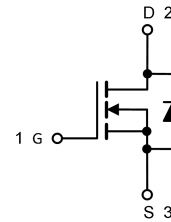
- 100% Avalanche Tested
- Extremely Low Losses with Low FOM $R_{ds(on)} \cdot Q_g$
- Halogen Free, Pb-Free
- RoHS Compliant



TO-263AB (D²PAK)

Applications

- DC/DC
- Motors, lamps
- Power switching



Absolute Maximum Ratings ($T_J=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain Source Voltage	V_{DS}	150	V
Gate Source Voltage	V_{GS}	± 20	V
Drain Current, Continuous $V_{GS}=10\text{V}$ (Note 1)	I_D	150	A
$T_C=25^\circ\text{C}$			
Drain Current, Pulsed (Note 2)	I_{DM}	600	A
Single Avalanche Energy	E_{AS}	1108	mJ
Power Dissipation (Note 3)	P_D	312	W
$T_C=25^\circ\text{C}$			
Operating Junction/ Storage Temperature Range	T_J / T_{STG}	-55 to +150	$^\circ\text{C}$

Note 1: Calculated continuous current based on maximum allowable junction temperature.

Note 2: Repetitive rating; pulse width limited by max. junction temperature.

Thermal Characteristics

Parameter	Symbol	Max	Unit
Junction-to-case (Note 3)	$R_{\theta JC}$	0.4	$^\circ\text{C}/\text{W}$

Note 3: The power dissipation P_D is based on max. junction temperature, using junction-to-case thermal resistance.

Electrical Characteristics (T_J =25°C unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250μA	150	--	--	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =150V, V _{GS} =0V	--	--	1	uA
Gate Threshold Voltage	V _{GS(TH)}	V _{DS} =V _{GS} , I _D =250uA	2	--	4	V
Gate Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V	--	--	±100	nA
Drain-Source On-state Resistance	R _{DS(on)}	V _{GS} =10V, I _D =30A	--	4.4	6	mΩ
Total Gate Charge	Q _g	V _{GS} =10V, V _{DS} =75V, I _D =20A	--	80	--	nC
Gate Source Charge	Q _{gs}		--	30	--	
Gate Drain Charge	Q _{gd}		--	15	--	
Turn-on Delay Time	t _{d(on)}	V _{GS} =10V, V _{DS} =75V, R _L =1.07Ω, R _{GEN} =3Ω	--	34	--	ns
Turn-on Rise Time	t _r		--	10	--	
Turn-off Delay Time	t _{d(off)}		--	38	--	
Turn-off Fall Time	t _f		--	4	--	
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =100V, f=1MHz	--	6197	--	pF
Output Capacitance	C _{oss}		--	560	--	
Reverse Transfer Capacitance	C _{rss}		--	20	--	

Reverse Diode Characteristics (T_J =25°C unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Continuous Source Current (Body Diode)	I _S	T _C =25°C	--	--	150	A
Pulsed Source Current (Body Diode)	I _{SM}		--	--	600	
Diode Forward Voltage	V _{SD}	I _S =30A, V _{GS} =0V	--	--	1.2	V
Reverse Recovery Time	T _{rr}	I _S =15A, di/dt = 100 A/μs	--	120	--	ns
Reverse Recovery Charge	Q _{rr}		--	250	--	nC

Typical Characteristics Curves ($T_J = 25^\circ\text{C}$ unless otherwise noted)

Fig.1 - Typical Output Characteristics

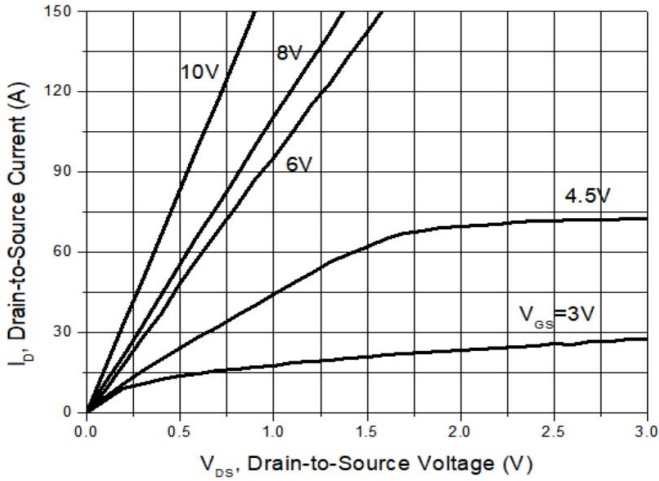


Fig.2 - Typical Transfer Characteristics

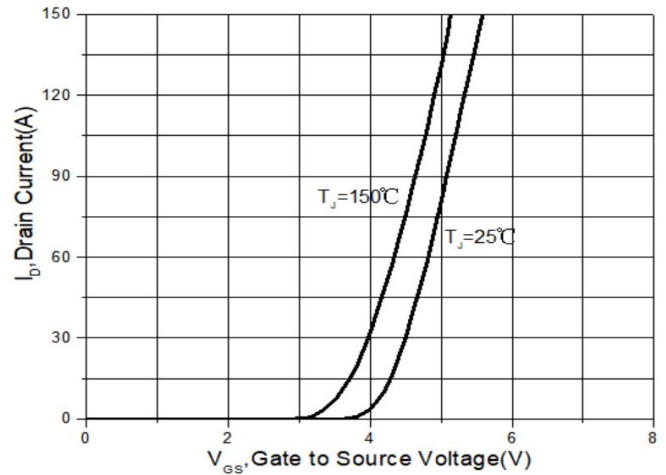


Fig.3 - Drain-to-Source Breakdown Voltage vs. Junction Temperature

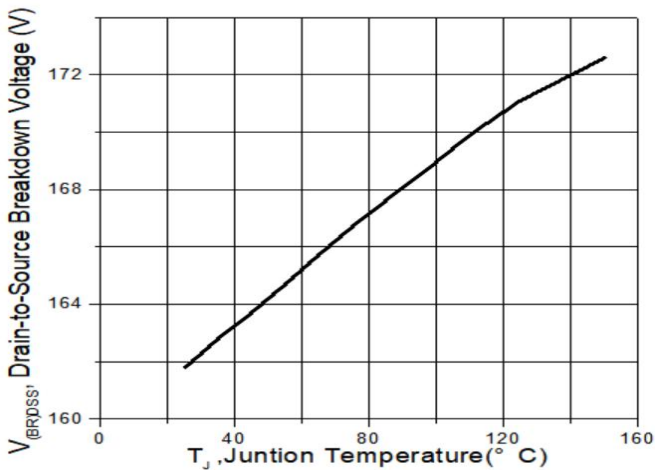


Fig.4 - Normalized On-Resistance vs. Junction Temperature

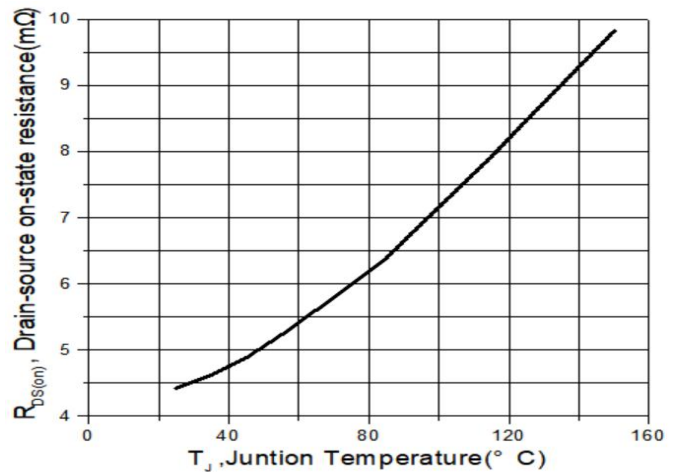


Fig.5 - Normalized VGS(th) vs. Junction Temperature

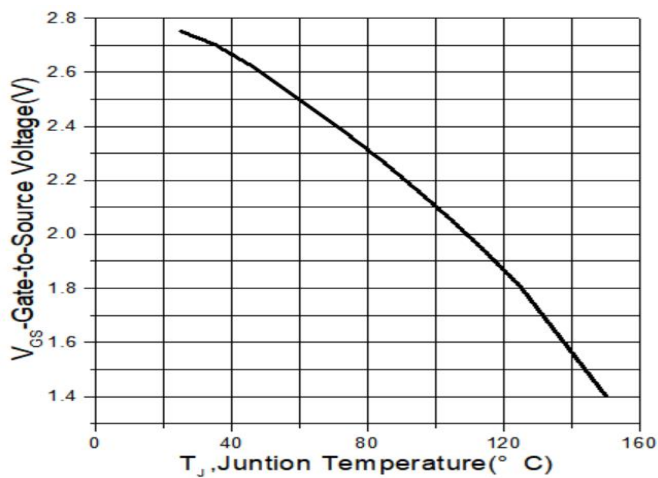
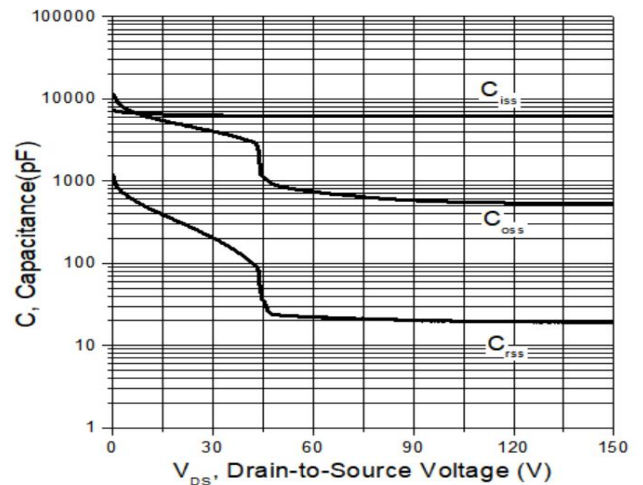
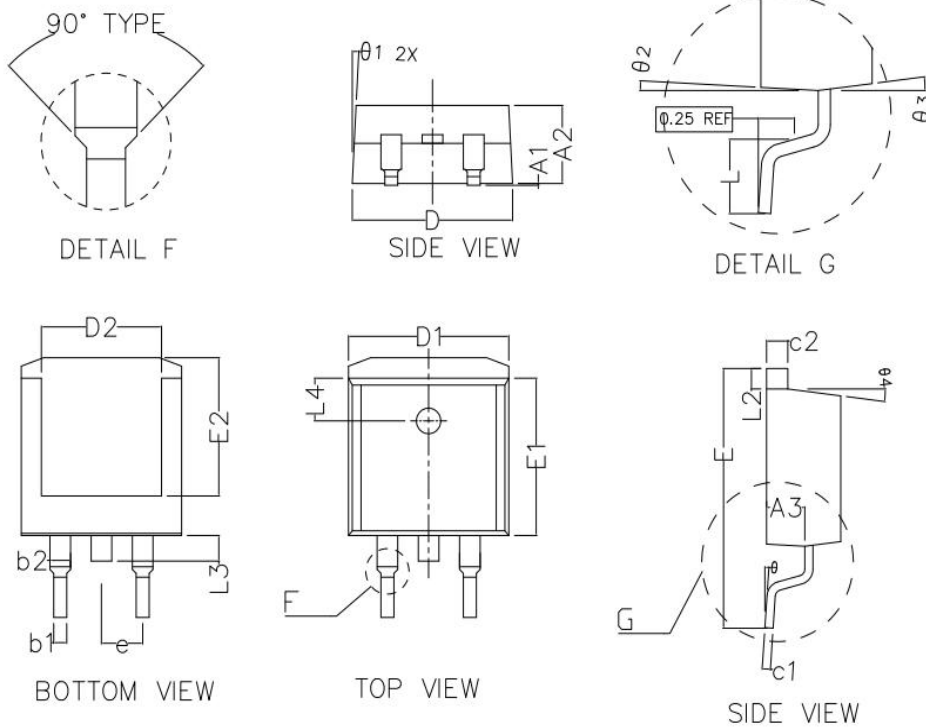


Fig.6 - Capacitance Characteristics



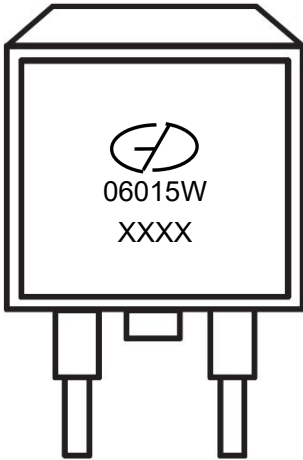
Package Outline Dimensions (Unit: millimeters)

TO-263



COMMON DIMENSIONS (UNITS OF MEASURE IS mm)			
	MIN	NORMAL	MAX
A1	0.020	0.100	0.200
A2	4.470	4.570	4.670
A3	2.300	2.350	2.400
b1	0.750	0.800	0.850
b2	1.220	1.270	1.320
c1	0.450	0.500	0.550
c2	1.250	1.300	1.350
D	9.900	10.000	10.100
▲ D1	9.780	9.880	9.980
▲ D2	7.900	8.000	8.100
E	14.900	15.100	15.300
▲ E1	9.000	9.100	9.200
▲ E2	7.600	7.700	7.800
e	2.540TYPE		
L	2.100	2.300	2.500
L2	1.100	1.200	1.300
L3	1.300	1.500	1.700
▲ L4	2.50 TYPE		
θ1	3° TYPE		
θ2	3° TYPE		
θ3	7° TYPE		
θ4	7° TYPE		
θ	0 ~ 8°		

Marking Outline



Part Name: GMN06015W

1. Logo Mark: 
2. P/N Mark: 06015W
3. Date Code: XXXX

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