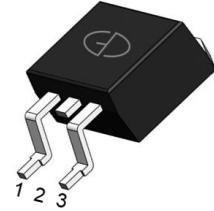


N-Channel 150V (D-S) Power MOSFET

Features

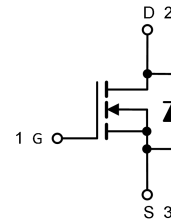
- 100% Avalanche Tested
- Extremely Low Losses with Low FOM $R_{ds(on)} \cdot Q_g$
- Halogen Free, Pb-Free
- RoHS Compliant



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	$T_C=25^\circ\text{C}$	240
		$T_C=100^\circ\text{C}$	185
Drain Current, Pulsed (Note 2)	I_{DM}	720	A
Single Avalanche Energy	E_{AS}	1024	mJ
Power Dissipation (Note 3)	P_D	272	W
Avalanche Current	I_{AS}	64	A
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)	$R_{\theta JC}$	0.46	$^\circ\text{C/W}$
Junction-to-ambient (Note 4)	$R_{\theta JA}$	62	$^\circ\text{C/W}$

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

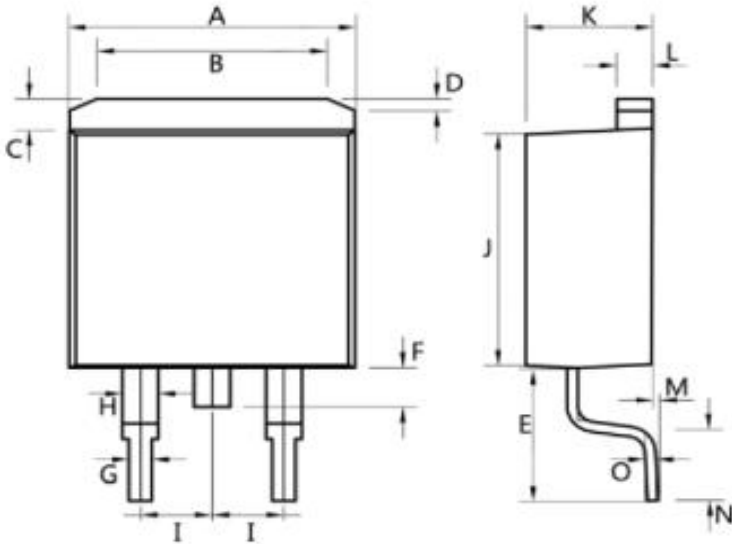
Note 4: The value of $R_{\theta JA}$ is measured with the device mounted on 1 in 2 FR-4 board with 2oz. Copper, in a still air environment with $T_A = 25^\circ\text{C}$.

Electrical Characteristics ($T_J = 25^\circ\text{C}$ unless otherwise noted)						
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	150	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=140V, V_{GS}=0V$	--	--	1	μA
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1	--	2.5	V
Gate Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	--	--	± 100	nA
Drain-Source On-state Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=40A$	--	4.8	5.8	$m\Omega$
Total Gate Charge	Q_g	$V_{GS}=10V, V_{DS}=75V, I_D=70A$	--	66	--	nC
Gate Source Charge	Q_{gs}		--	21	--	
Gate Drain Charge	Q_{gd}		--	20	--	
Turn-on Delay Time	$t_{d(on)}$	$V_{GS}=10V, V_{DS}=75V, R_L=1.07\Omega, R_G=3\Omega$	--	18	--	ns
Turn-on Rise Time	t_r		--	21	--	
Turn-off Delay Time	$t_{d(off)}$		--	36	--	
Turn-off Fall Time	t_f		--	10	--	
Input Capacitance	C_{iss}	$V_{GS}=0V, V_{DS}=25V, f=1MHz$	--	4196	--	μF
Output Capacitance	C_{oss}		--	2875	--	
Reverse Transfer Capacitance	C_{rss}		--	210	--	

Reverse Diode Characteristics ($T_J = 25^\circ\text{C}$ unless otherwise noted)						
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Continuous Source Current (Body Diode)	I_S	$T_C=25^\circ\text{C}$	--	--	240	A
Pulsed Source Current (Body Diode)	I_{SM}		--	--	720	
Diode Forward Voltage	V_{SD}	$I_S=20A, V_{GS}=0V$	--	--	1.2	V
Reverse Recovery Time	T_{rr}	$I_F=20A, di/dt = 500 A/\mu s$	--	101	--	ns
Reverse Recovery Charge	Q_{rr}		--	1240	--	nC

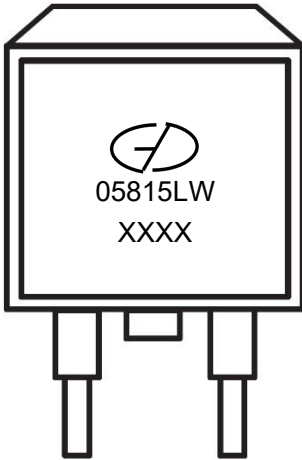
Package Outline Dimensions (Unit: millimeters)

TO-263




Dim.	Min.	Max.
A	10.0	10.5
B	7.25	7.75
C	1.3	1.5
D	0.55	0.75
E	5.0	6.0
F	1.4	1.6
G	0.75	0.95
H	1.15	1.35
I	Typ 2.54	
J	8.4	8.6
K	4.4	4.6
L	1.25	1.45
M	0.02	0.1
N	2.4	2.8
O	0.35	0.45
All Dimensions in millimeter		

Marking Outline



Part Name: GMN05815LW

1. Logo Mark: 
2. P/N Mark: 05815LW
3. Date Code: XXXX

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