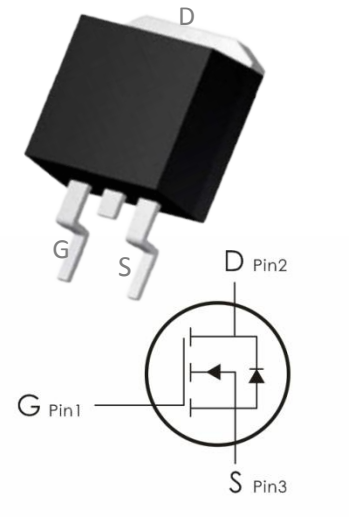
Description：

This N-Channel MOSFET uses advanced SGT technology and design to provide excellent $R_{DS(on)}$ with low gate charge.

It can be used in a wide variety of applications.



Features：

1) V_{DS}=150V,I_D=110A,$R_{DS(ON)}$<7mΩ @V_{GS}=10V
2) Low gate charge.
3) Green device available.
4) Advanced high cell denity trench technology for ultra low $R_{DS(ON)}$.
5) Excellent package for good heat dissipation.

Package Marking and Ordering Information：

Part NO.	Marking	Package	Packing
DOB110N15	110N15	TO- 263	800 pcs/Reel

Absolute Maximum Ratings： (T_C=25℃ unless otherwise noted)

Symbol	Parameter	Ratings	Units
V_{DS}	Drain-Source Voltage	150	V
V_{GS}	Gate-Source Voltage	±20	V
I_D	Continuous Drain CurrentT_C=25℃[1]	110	A
	Continuous Drain CurrentT_C=100℃	70	
I_{DM}	Pulsed Drain Current[2]	440	
P_D	Power Dissipation	192	W
E_{AS}	Single pulse avalanche energy[3]	625	mJ
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55-+150	℃

Thermal Characteristics：

Symbol	Parameter	Max	Units
$R_{\theta JC}$	Thermal Resistance,Junction to Case	0.65	℃/W

$R_{\theta JA}$	Thermal Resistance,Junction to Ambient[4]	50	℃/W

Electrical Characteristics: (T_C=25℃ unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Units
Off Characteristics						
BV_{DSS}	Drain-Sourtce Breakdown Voltage	V_{GS}=0V,I_D=250μA	150	---	---	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{GS}=0V, V_{DS}=150V	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	V_{GS}=±20V, V_{DS}=0A	---	---	±100	nA
On Characteristics						
$V_{GS(th)}$	GATE-Source Threshold Voltage	V_{GS}=V_{DS}, I_D=250μA	2	3	4	V
$R_{DS(ON)}$	Drain-Source On Resistance	V_{GS}=10V,I_D=20A	---	5.5	7	mΩ
Dynamic Characteristics						
C_{iss}	Input Capacitance	V_{DS}=75V, V_{GS}=0V, f=1MHz	---	5928	---	pF
C_{oss}	Output Capacitance		---	545	--	
C_{rss}	Reverse Transfer Capacitance		---	22	---	
Switching Characteristics						
$t_{d(on)}$	Turn-On Delay Time	V_{DS}=75V, R_{ENG}=6Ω,V_{GS}=10V	---	31	---	ns
t_r	Rise Time		---	48	---	ns
$t_{d(off)}$	Turn-Off Delay Time		---	79	---	ns
t_f	Fall Time		---	45	---	ns
Q_g	Total Gate Charge	V_{GS}=10V, V_{DS}=75V, I_D=20A	---	84.2	---	nc
Q_{gs}	Gate-Source Charge		---	24.7	---	nc
Q_{gd}	Gate-Drain “Miller” Charge		---	16.8	---	nc
Drain-Source Diode Characteristics						
V_{SD}	Diode Forward Voltage	V_{GS}=0V, I_{SD}=25A	---	0.6	1	V
I_S	Continuous Drain Curren	VD=VG=0V	---	---	110	A
I_{SM}	Pulsed Drain Current[1]		---	---	440	A
Trr	Reverse Recovery Time	I_F=15A,T_J=25℃ dI/dt=100A/us	---	92	---	ns
Qrr	Reverse Recovery Charge		---	364	---	nc

Notes:

1. The max drain current rating is package limited
2. Repetitive Rating: Pulse width limited by maximum junction temperature
3. L = 0.5 mH, V_{DD} = 75V, I_{AS} = 50 A, R_G = 25 Ω, Starting T_J = 25 °C
4. Mount on minimum PCB layout

Typical Characteristics: (T_C=25℃ unless otherwise noted)

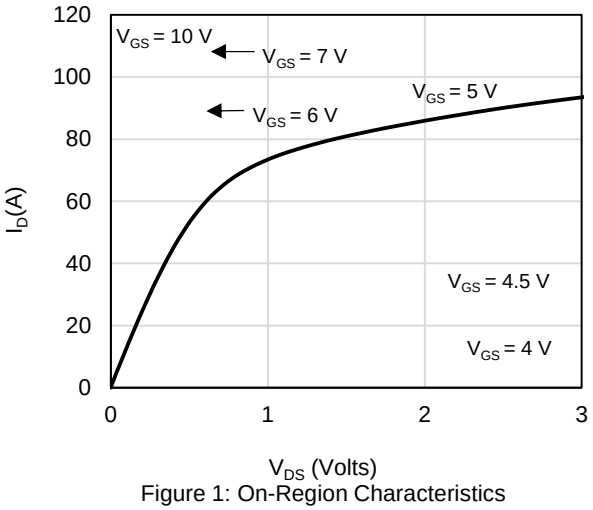


Figure 1: On-Region Characteristics

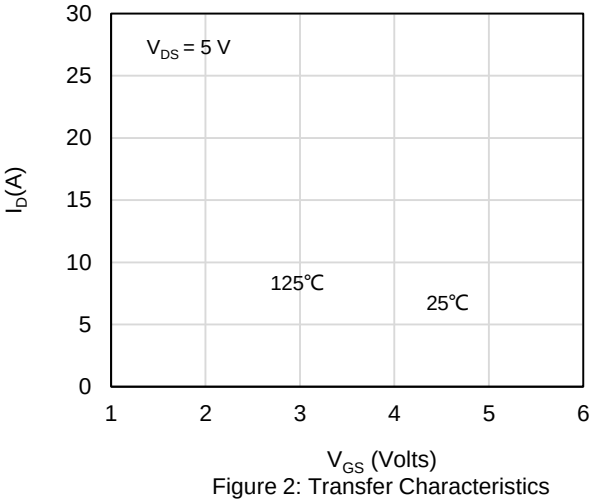


Figure 2: Transfer Characteristics

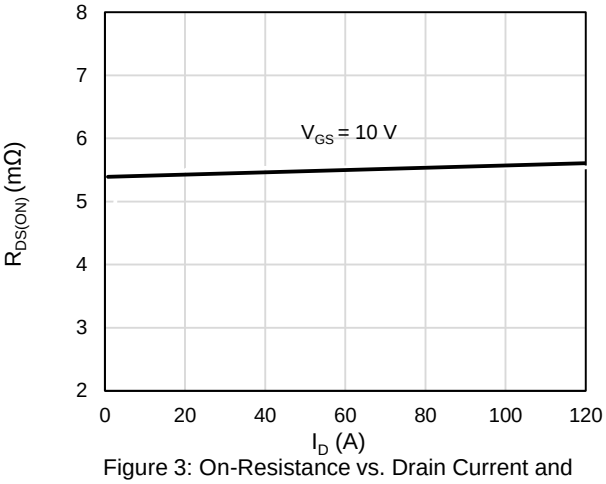


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

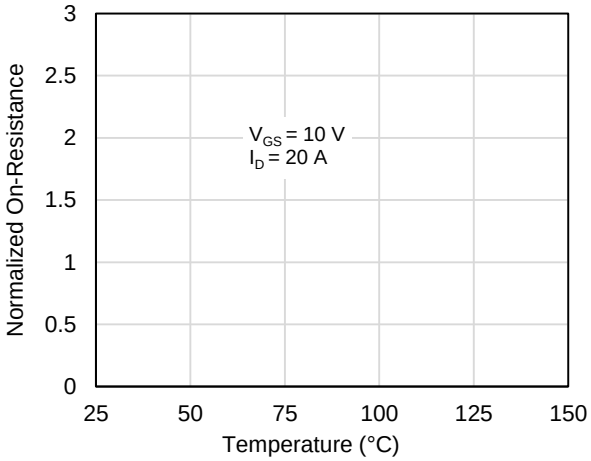


Figure 4: On-Resistance vs. Junction Temperature

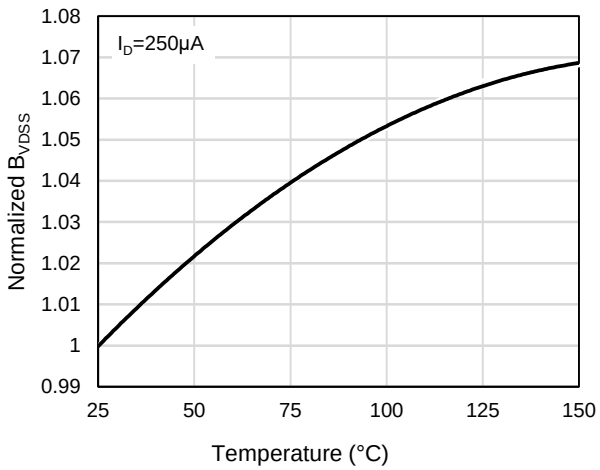


Figure 5: Breakdown Voltage vs. Junction Temperature

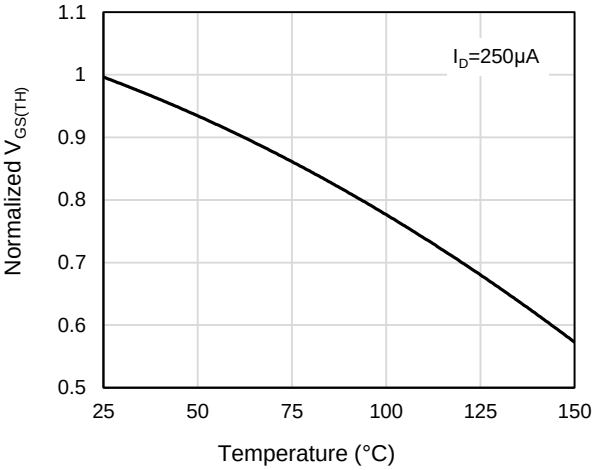


Figure 6: Threshold Voltage vs. Junction Temperature

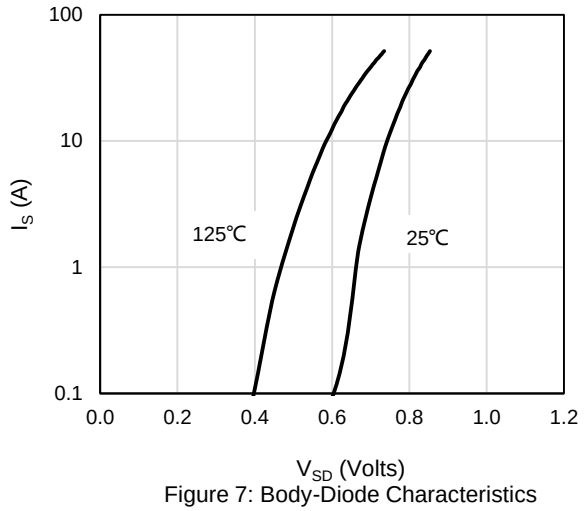


Figure 7: Body-Diode Characteristics

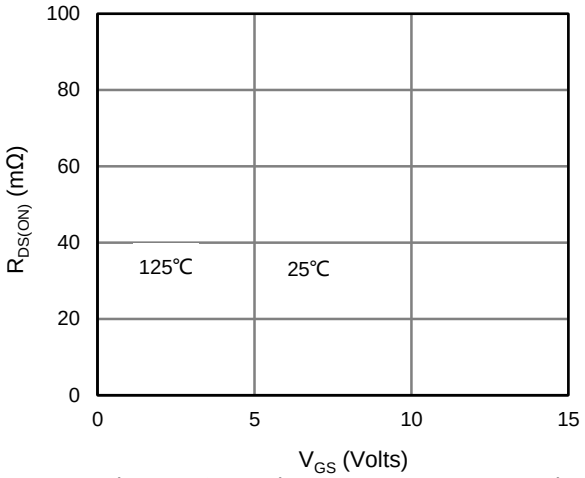


Figure 8: On-Resistance vs. Gate-Source Voltage

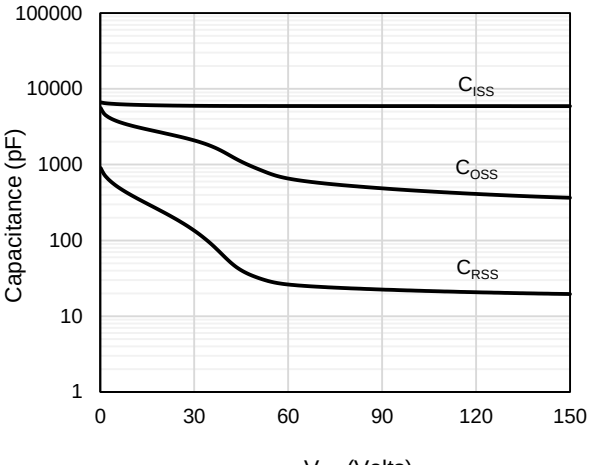


Figure 9: Capacitance Characteristics

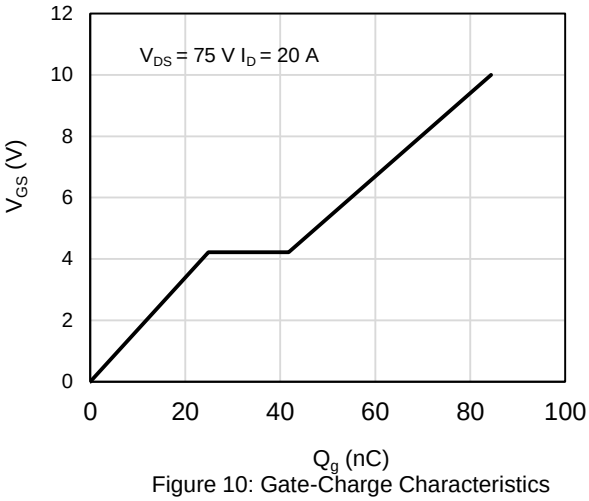


Figure 10: Gate-Charge Characteristics

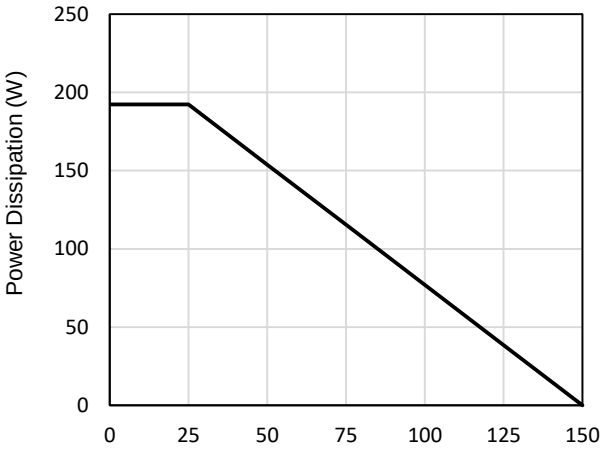


Figure 11: Power De-rating

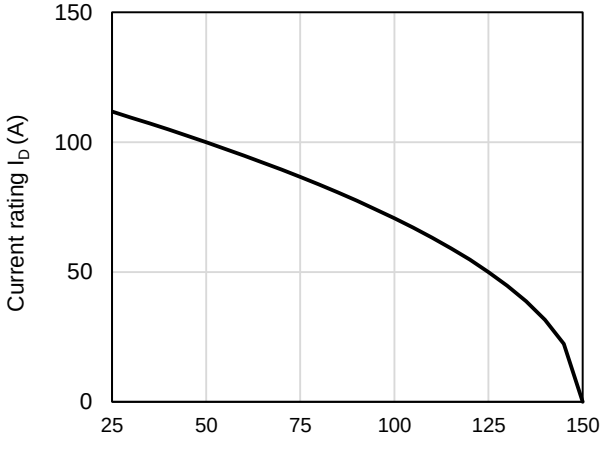


Figure 12: Current De-rating

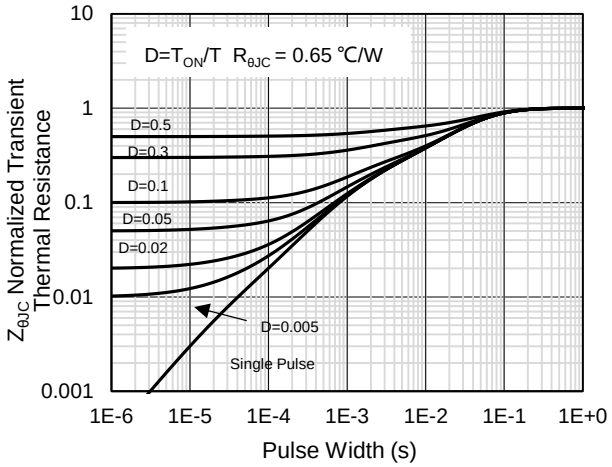


Figure 13: Normalized Maximum Transient Thermal Impedance

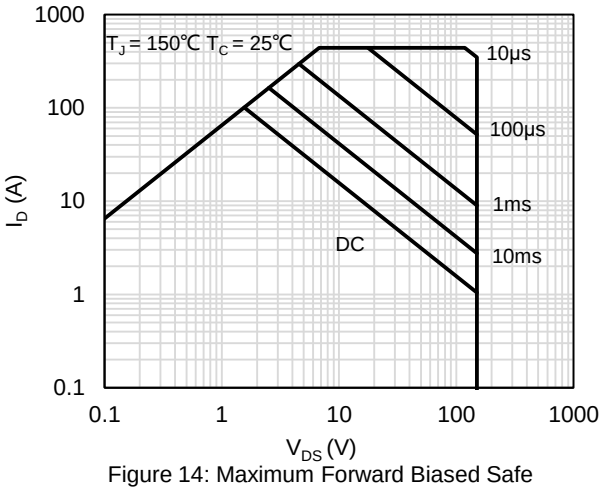
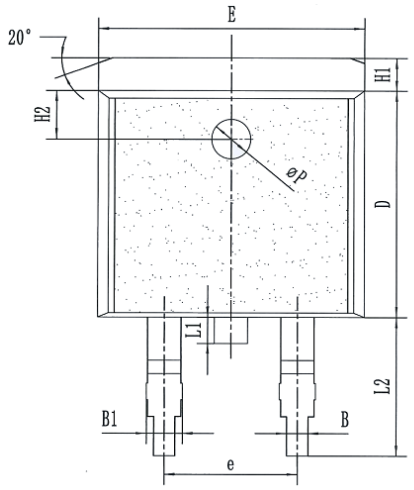
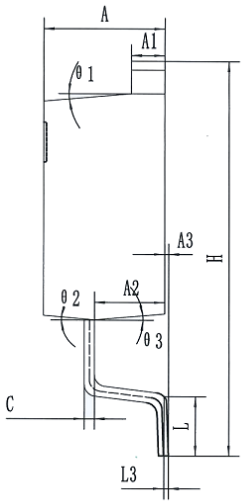


Figure 14: Maximum Forward Biased Safe Operating Area

TO-263 Package Information： Unit:mm

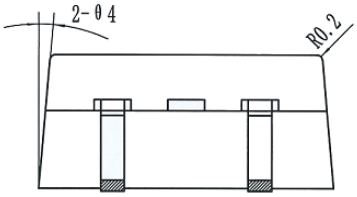
Package Outline Type-A



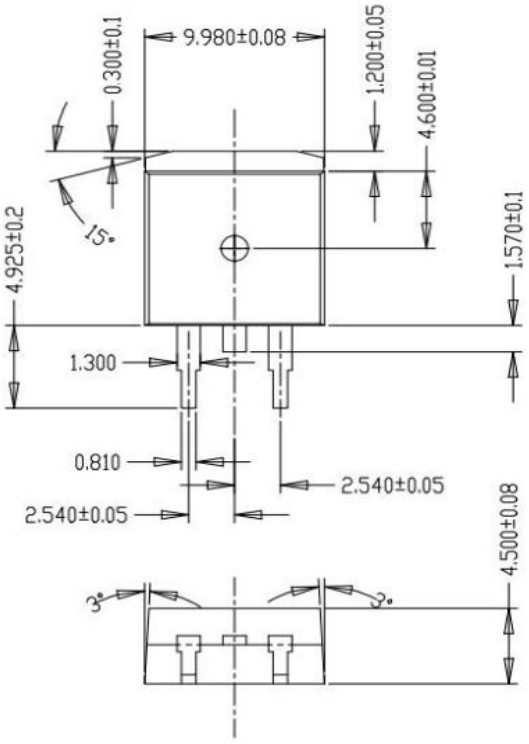


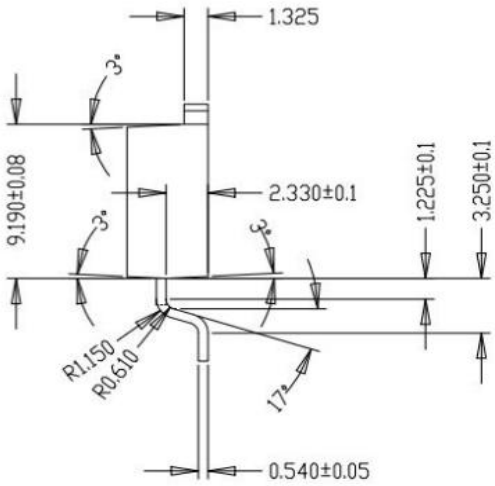
COMMON DIMENSIONS

SYMBOL	MM		
	MIN	NOM	MAX
A	4.50	4.60	4.70
A1	1.22	1.27	1.32
A2	2.57	2.67	2.77
A3	0.00		0.15
B	0.76	0.81	0.87
B1	1.32	1.37	1.42
C	0.33	0.38	0.43
D	8.55	8.65	8.75
e	5.08 BSC		
E	10.06	10.16	10.26
H	14.80	15.00	15.20
H1	1.17	1.27	1.37
H2	1.85 REF		
L	2.09	2.39	2.69
L1	0.80	1.00	1.20
L2	4.88	5.08	5.28
L3	0.25 REF		
ϕP	1.40	1.50	1.60
θ1	3°	5°	7°
θ2	3°	5°	7°
θ3	3°	5°	7°
θ4	3°	5°	7°



Package Outline Type-B





Marking Information：

①. Doingter LOGO

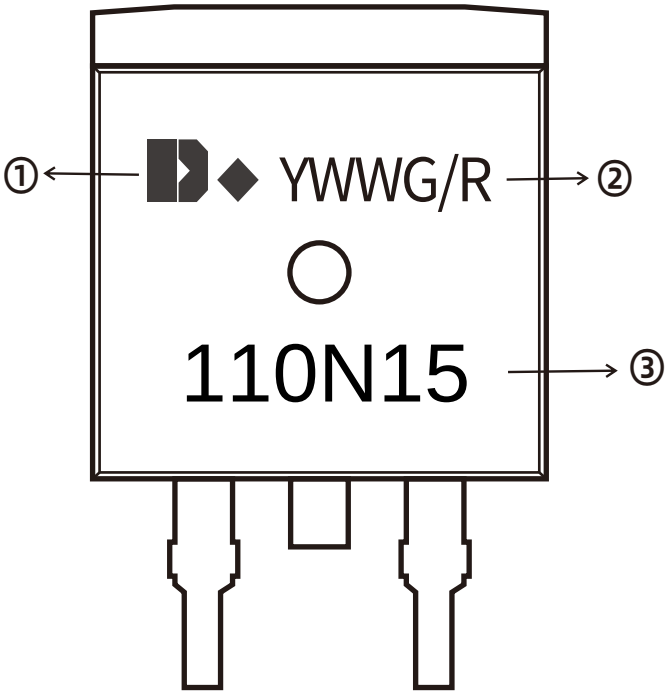
②. Date Code(YWWG / R)

Y：Year Code，last digit of the year

WW：Week Code(01-53)

G/R：G(Green) /R(Lead Free)

③. Part NO.



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