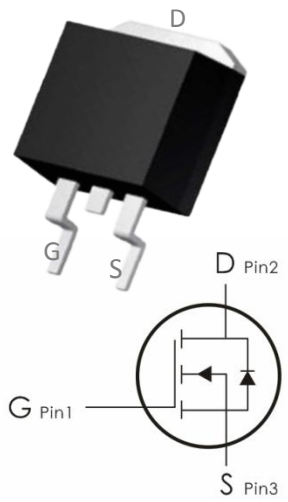
Description：

This N-Channel MOSFET uses advanced trench 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}=60V,I_D=80A,$R_{DS(ON)}$<7.5mΩ @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
DOB80N06	80N06	TO- 263	800 pcs/Reel

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

Symbol	Parameter	Ratings	Units
V_{DS}	Drain-Source Voltage	60	V
V_{GS}	Gate-Source Voltage	±20	V
I_D	Continuous Drain Curren[2]	80	A
	Continuous Drain Current-T_C=100℃[2]	51	
I_{DM}	Pulsed Drain Current[3]	320	
P_D	Power Dissipation	83	W
E_{AS}	Single pulse avalanche energy[1]	244	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	1.5	℃/W
$R_{\theta JA}$	Thermal Resistance,Junction to Ambient	62	℃/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	60	---	---	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{GS}=0V, V_{DS}=60V	---	---	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	2.8	4	V
$R_{DS(ON)}$	Drain-Source On Resistance	V_{GS}=10V,I_D=20A	---	5.8	7.5	mΩ
Dynamic Characteristics						
C_{iss}	Input Capacitance	V_{DS}=30V, V_{GS}=0V, f=1MHz	---	4008	---	pF
C_{oss}	Output Capacitance		---	242	--	
C_{rss}	Reverse Transfer Capacitance		---	200	---	
Switching Characteristics						
$t_{d(on)}$	Turn-On Delay Time	V_{DS}=30V, I_D=20A, R_{ENG}=3Ω ,V_{GS}=10V	---	18	---	ns
t_r	Rise Time		---	41	---	ns
$t_{d(off)}$	Turn-Off Delay Time		---	47	---	ns
t_f	Fall Time		---	28	---	ns
Q_g	Total Gate Charge	V_{GS}=10V, V_{DS}=30V, I_D=20A	---	75	---	nc
Q_{gs}	Gate-Source Charge		---	18	---	nc
Q_{gd}	Gate-Drain “Miller” Charge		---	4.2	---	nc
Drain-Source Diode Characteristics						
V_{SD}	Diode Forward Voltage	V_{GS}=0V, I_{SD}=20A	---	---	1.2	V
I_S	Continuous Drain Curren	VD=VG=0V	---	---	80	A
I_{SM}	Pulsed Drain Current		---	---	320	A
Trr	Reverse Recovery Time	I_F=20A,T_J=25℃ dI/dt=100A/us	---	28	---	ns
Qrr	Reverse Recovery Charge		---	52	---	nc

Notes:

1. L=0.5mH, V_{DD}=30V, Start T_J=25℃.
2. Limited by maximum junction temperature.
3. Repetitive Rating: Pulse width limited by maximum junction temperature.

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

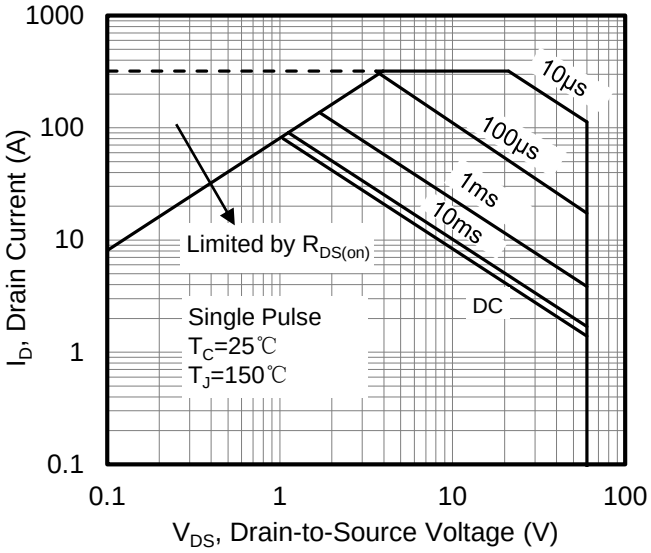


Figure 1. Maximum Safe Operating Area

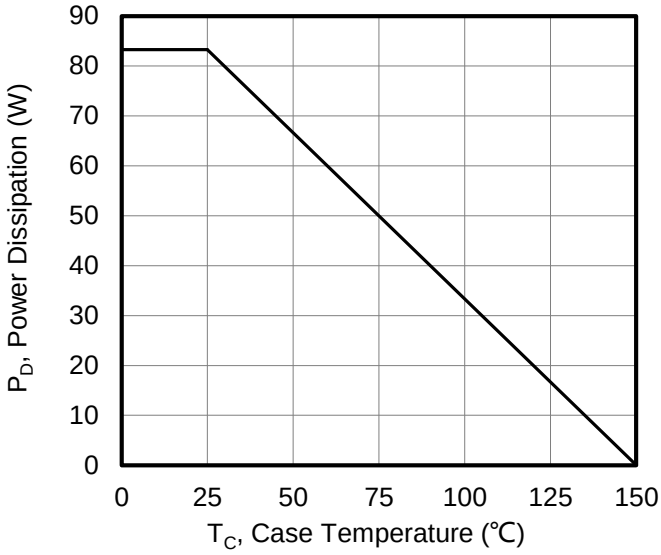


Figure 2. Maximum Power Dissipation vs Case Temperature

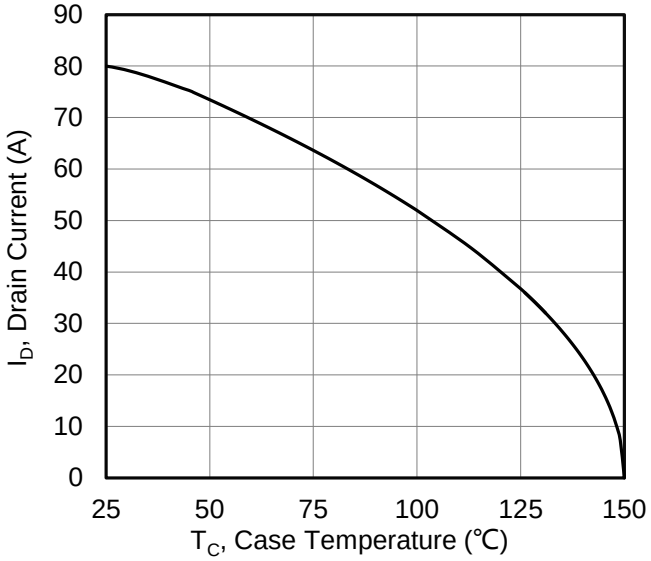


Figure 3. Maximum Continuous Drain Current vs Case Temperature

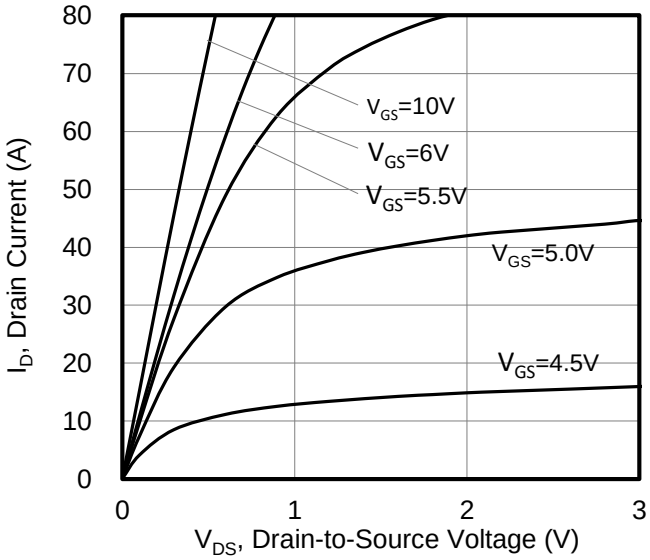


Figure 4. Typical output Characteristics

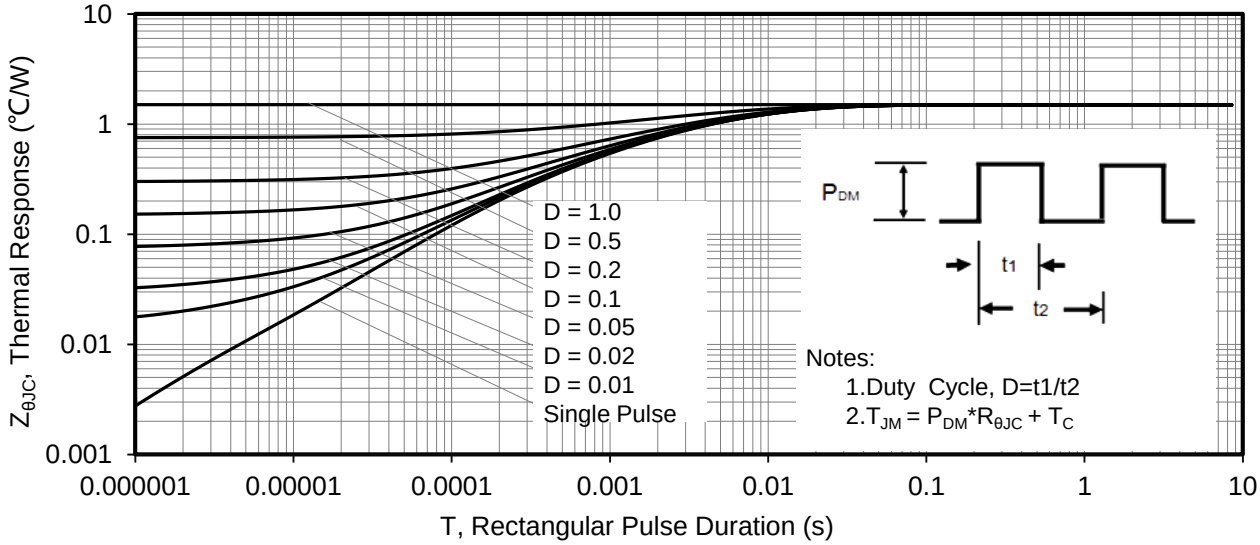


Figure 5. Maximum Effective Thermal Impedance, Junction to Case

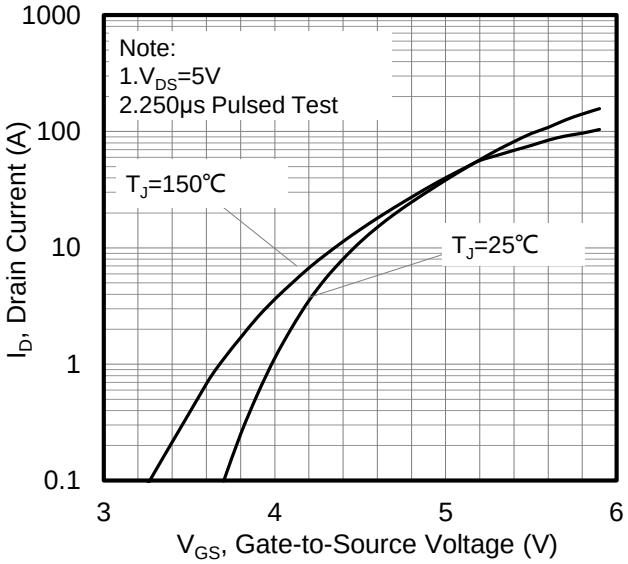


Figure 6. Typical Transfer Characteristics

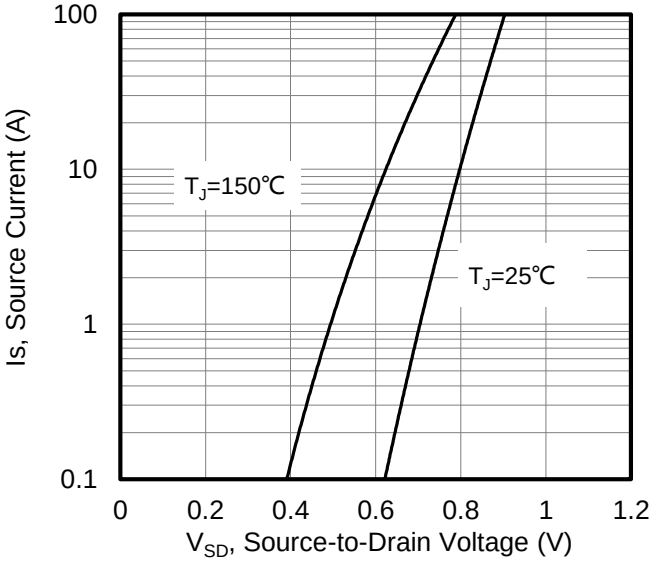


Figure 7. Typical Body Diode Transfer Characteristics

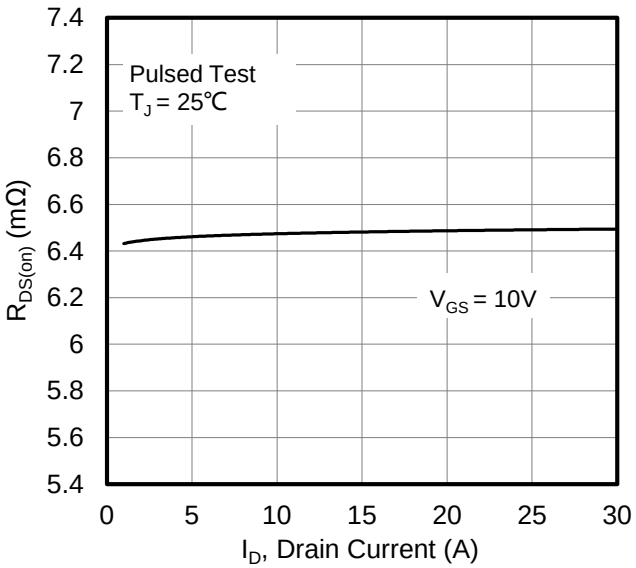


Figure 8. Drain-to-Source On Resistance vs Drain Current

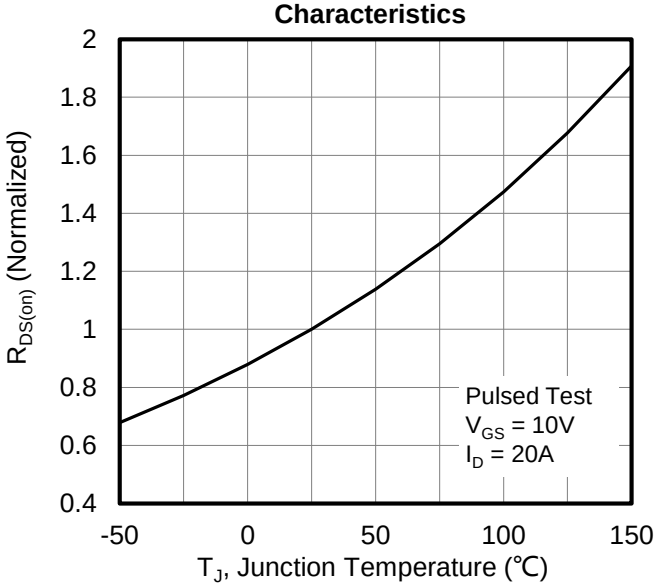


Figure 9. Normalized On Resistance vs Junction Temperature

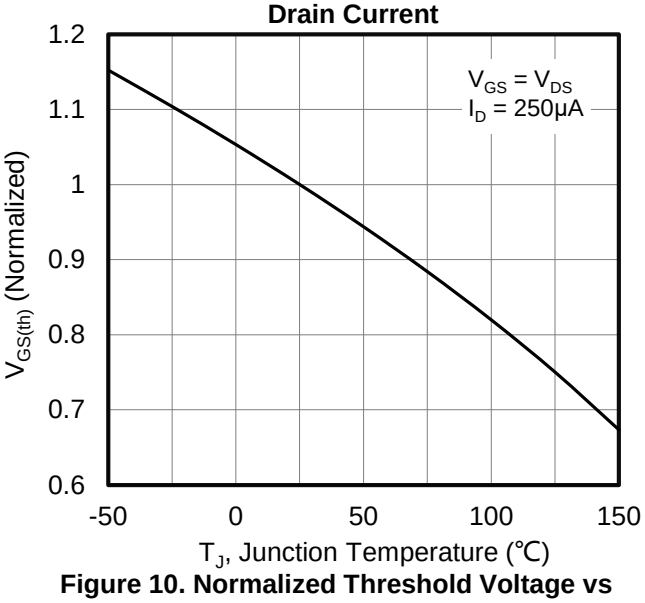


Figure 10. Normalized Threshold Voltage vs Junction Temperature

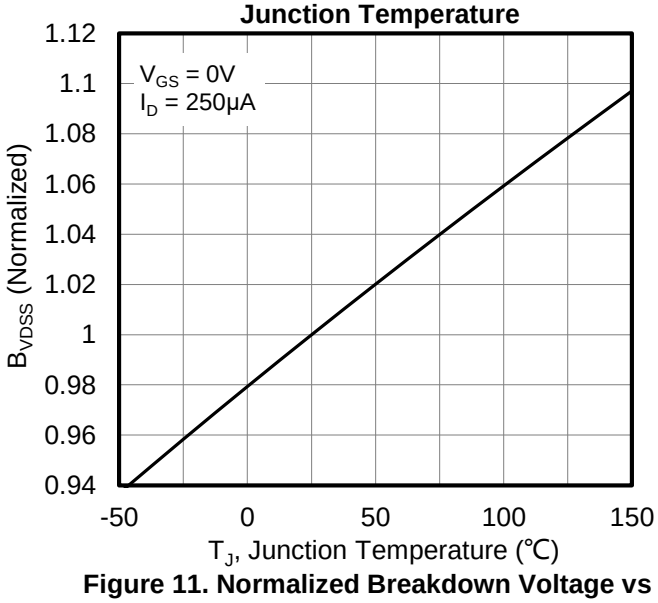


Figure 11. Normalized Breakdown Voltage vs Junction Temperature

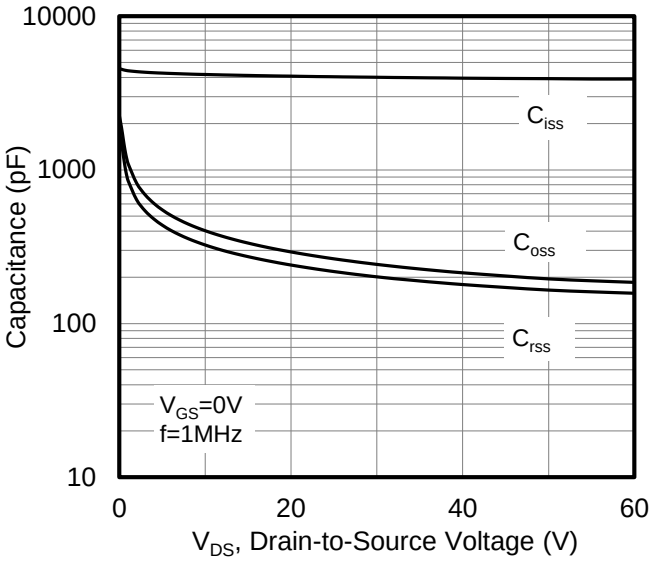


Figure 12. Capacitance Characteristics

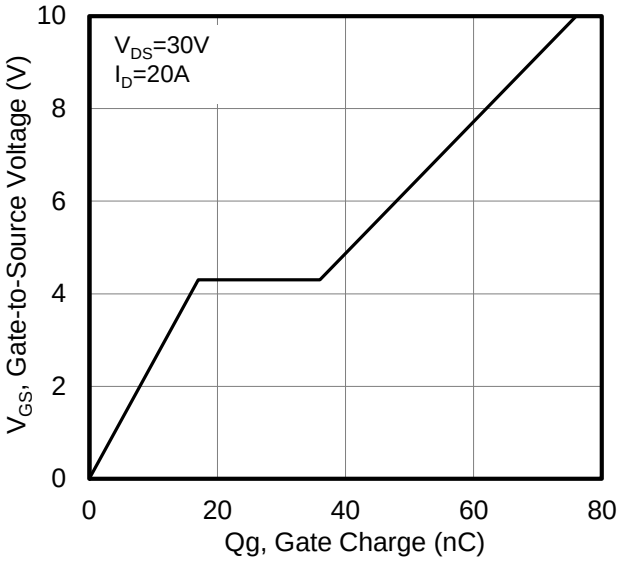
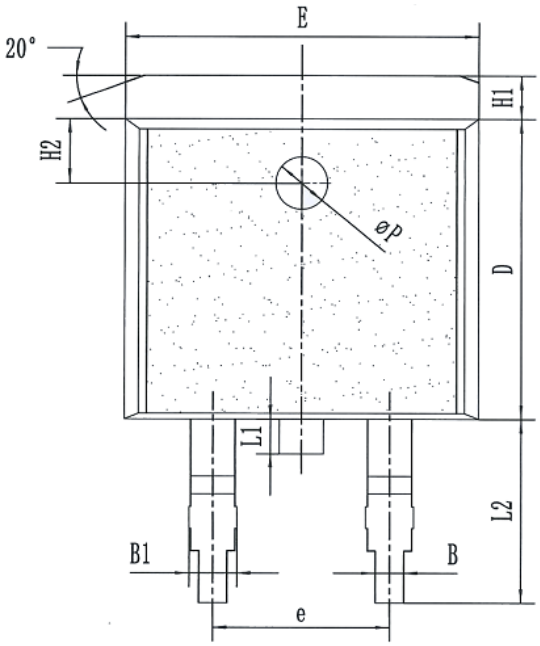
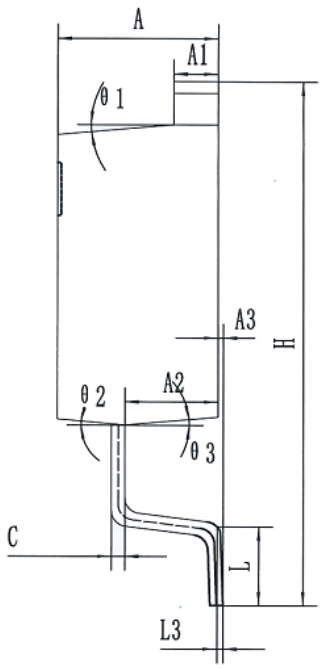
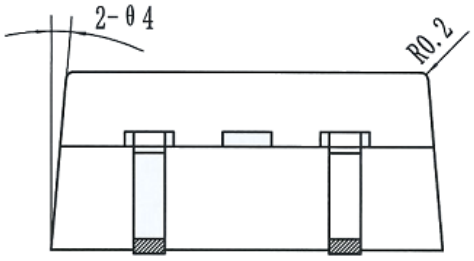


Figure 13. Typical Gate Charge vs Gate to Source Voltage

TO-263 Package Information：







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°

Unit:mm

Marking Information：

①. Doingter LOGO

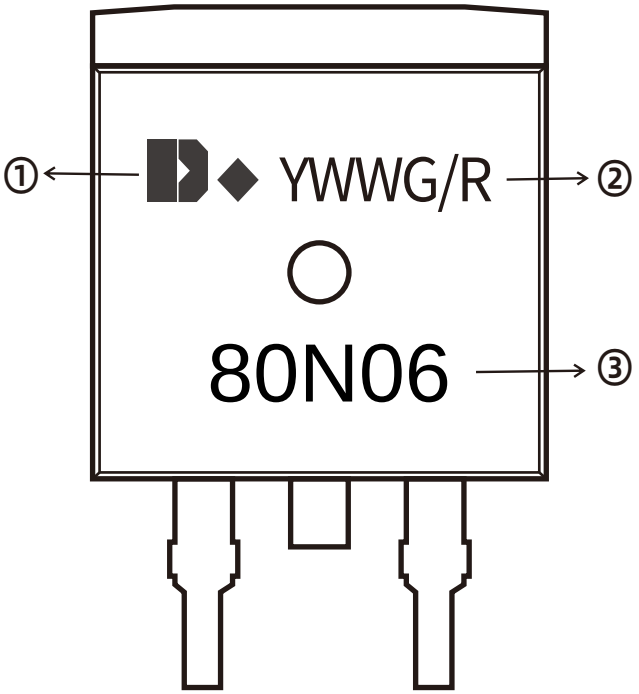
②. Date Code(YWWG / R)

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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