

Rev.A Feb.-2025

TO-263 N

N-CHANNEL MOSFET in a TO-263 Plastic Package.

$V_{DS}=60V$ $I_D=162A$

$R_{DS(on)}@10V$ 3.5m (Type.3.3m)

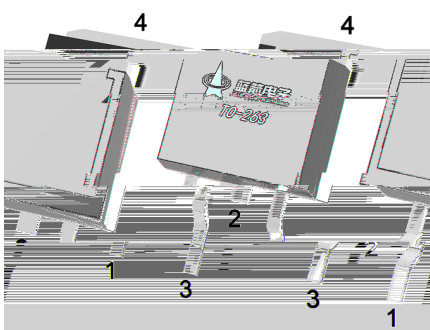
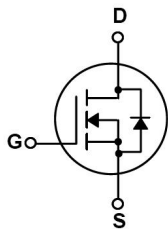
AEC-Q101

Qualified to AEC-Q101 Standards for High Reliability,

HF Product.

BMS

High frequency switching and synchronous rectification,BMS,Motor, Meet the stringent requirements of automotive applications.



PIN1 G PIN 2 4 D PIN 3 S

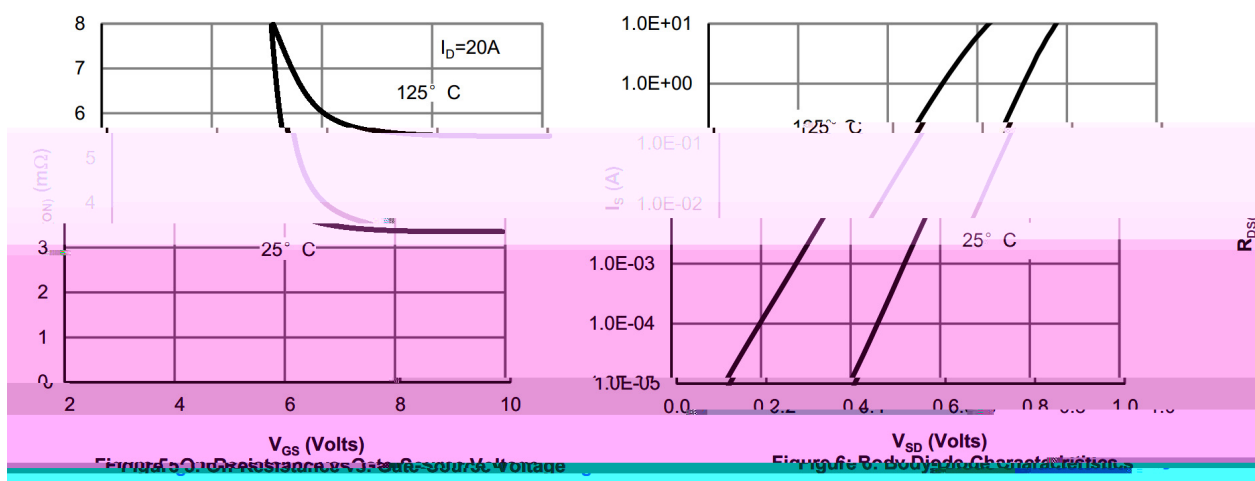
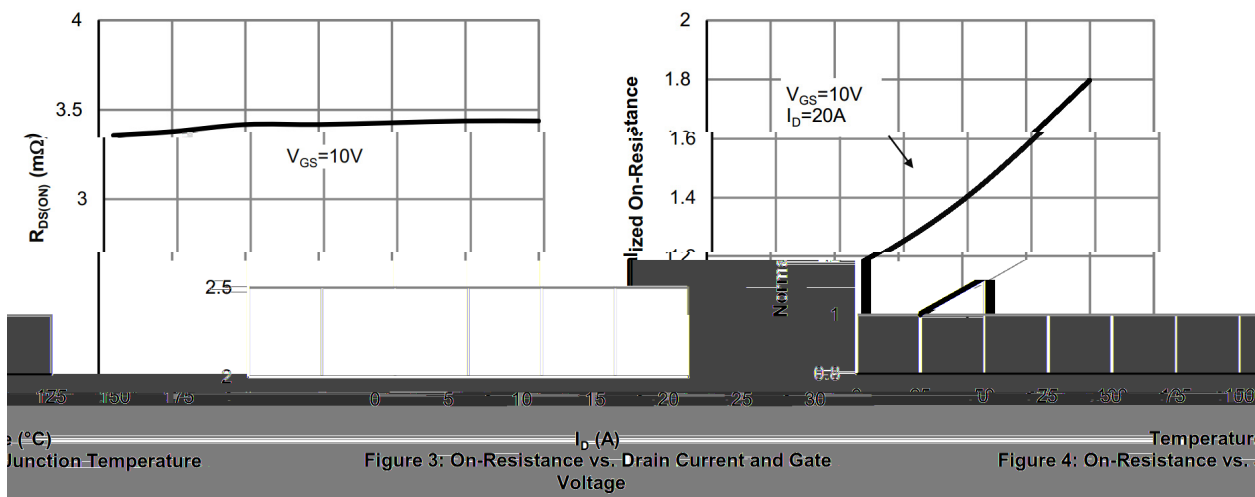
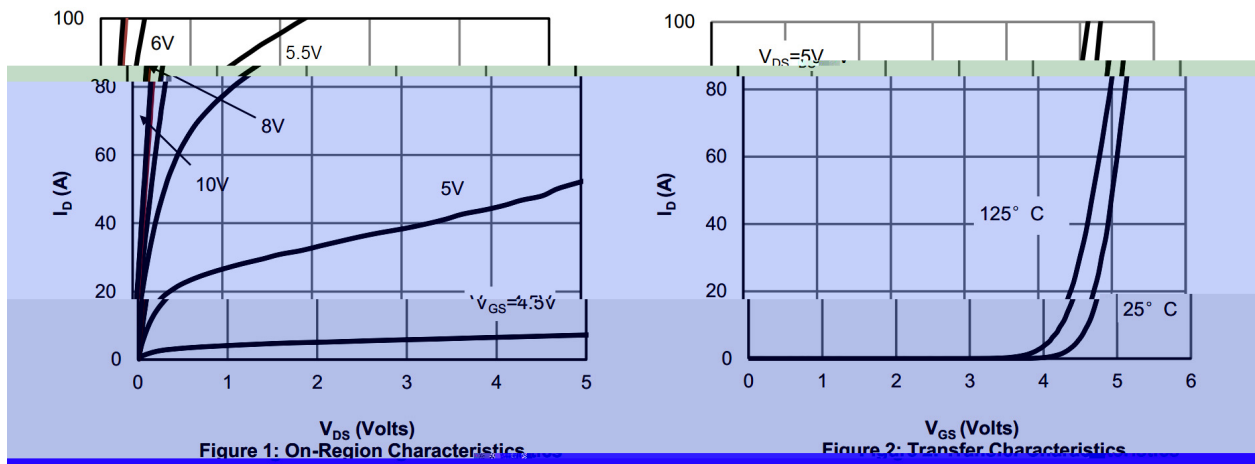
See Marking Instructions.

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	60	V
Drain Current		$I_D(T_c=25^\circ\text{C})$	162	A
Pulsed Drain Current		I_{DM}	466	A
Gate-Source Voltage		V_{GS}	20	V
Single Pulsed Avalanche Energy(L=0.5mH)		E_{AS}	820	mJ
Avalanche Current		I_{AS}	40.5	A
Total Power Dissipation		$P_D(T_c=25^\circ\text{C})$	170	W
Junction and Storage Temperature Range		T_J, T_{STG}	-55 to 150	
Thermal Resistance-Junction to Ambient	$t \leq 10s$	R_{JA}	23	/W
	Steady-State		75	
Thermal Resistance-Junction to Case	Steady-State	R_{JC}	0.74	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
	BV_{DSS}	$I_D=250\mu A, V_{GS}=0V$	60	70		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60V, V_{GS}=0V$			1.0	μA
Gate-Body leakage current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	2.0		4.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=20A$		3.3	3.5	m Ω
Diode Forward Voltage	V_{SD}	$I_S=1A, V_{GS}=0V$			1.2	V
Input Capacitance	C_{iss}	$V_{DS}=25V, V_{GS}=0V, f=1.0MHz$		4400		pF
Output Capacitance	C_{oss}			1400		
Reverse Transfer Capacitance	C_{rss}			73		
Gate resistance	R_g	$V_{GS}=0V, V_{DS}=0V, f=1MHz$		1.1		
Total Gate Charge	Q_g	$V_{GS}=10V, V_{DS}=30V, I_D=20A$		42		nC
Gate Source Charge	Q_{gs}			14		
Gate Drain Charge	Q_{gd}			11		



Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=30V$ $R_L=1.5$ $R_{GEN}=3$		13		ns
Turn-On Rise Time	t_r			4		
Turn-Off Delay Time	$t_{d(off)}$			47		
Turn-Off Fall Time	t_f			6.5		



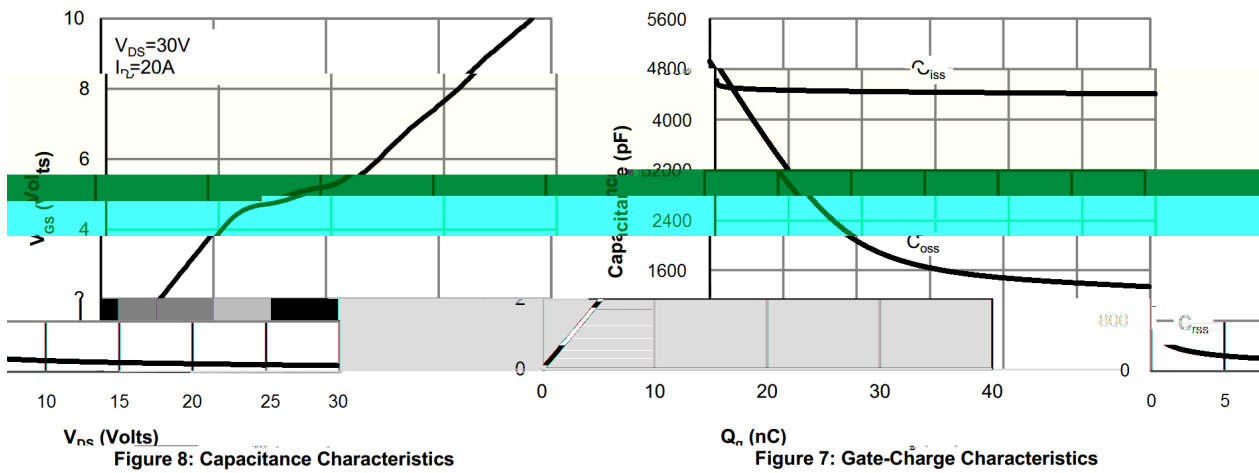


Figure 8: Capacitance Characteristics

Figure 7: Gate-Charge Characteristics

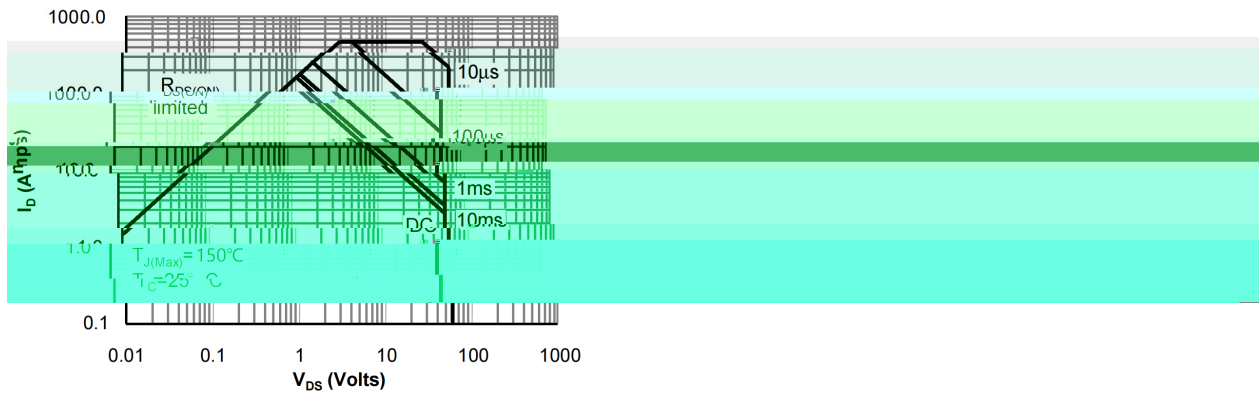


Figure 9: Maximum Forward Biased Safe Operating Area

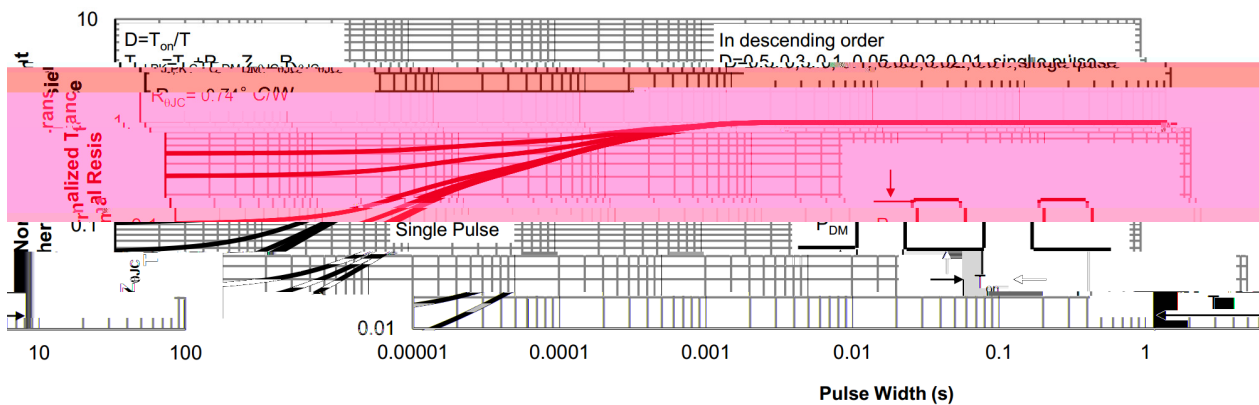
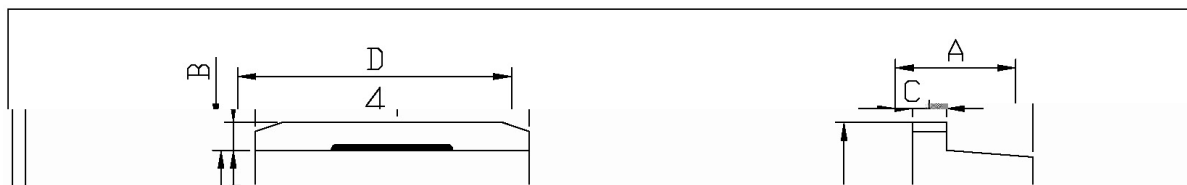


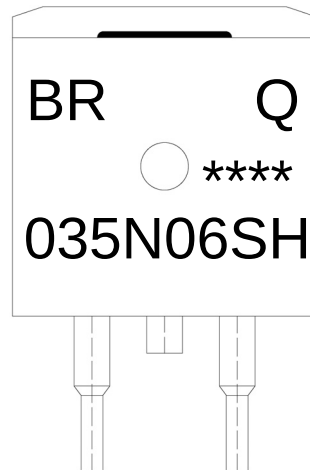
Figure 10: Normalized Maximum Transient Thermal Impedance



单位: mm

Dimensions in Millimeters			Dimensions in Millimeters		
Symbol	Min	Max	Symbol	Min	Max
A	4.30	4.70	E	9.00	9.40
B	1.00	1.40	e1	2.34	2.74
b	0.70	0.90	e2	4.88	5.28
b1	1.15	1.35	L1	15.00	16.00
b2	0.40	0.60	L2	2.24	2.84
C	1.20	1.40	L3	1.20	1.60
D	9.80	10.20			

TP-263



BR

Q

035N06SH

Note:

BR: Company Code

Q: Automobile halogen-free product Code

035N06SH: Product Type Code

****: Lot No. Code, code change with Lot No

Temperature Profile for IR Reflow Soldering(Pb-Free)