

/ Descriptions

TO-263 N

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

/ Features

 $V_{DS}=60V$ $I_D=162A$ $R_{DS(on)}@10V \leq 3.5m\Omega$ (Type.3.3m Ω)

AEC-Q101

Qualified to AEC-Q101 Standards for High Reliability,

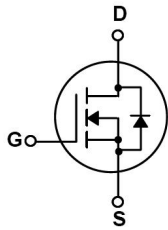
HF Product.

/ Applications

BMS

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

/ Equivalent Circuit



/ Pinning



PIN1 G

PIN 2 4 D

PIN 3 S

/ Marking

See Marking Instructions.

/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

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($L=0.5\text{mH}$)		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	$t \leq 10\text{s}$	$R_{\theta JA}$	23	/W
	Steady-State		75	
Thermal Resistance-Junction to Case	Steady-State	$R_{\theta JC}$	0.74	

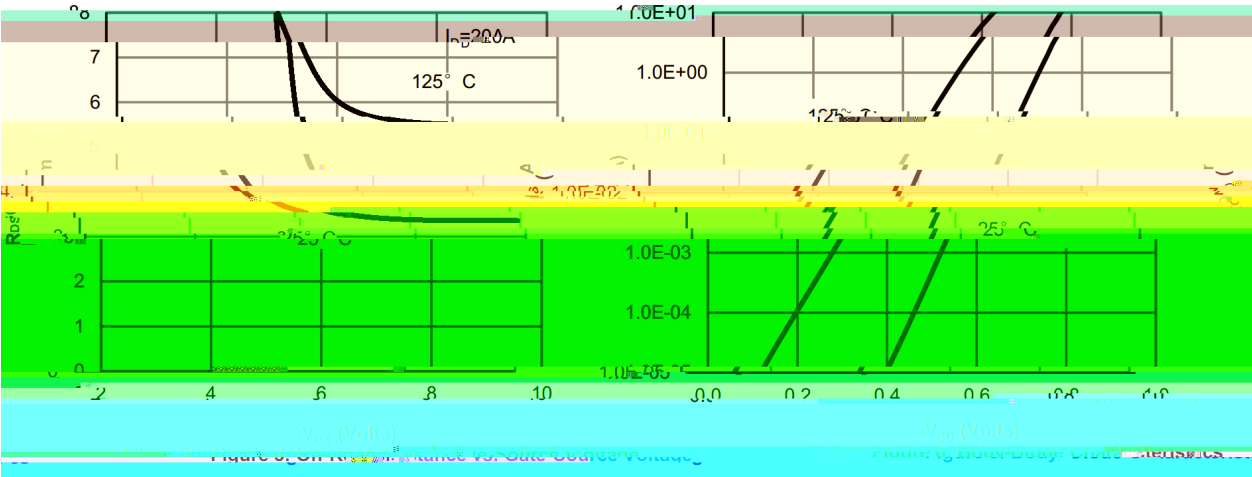
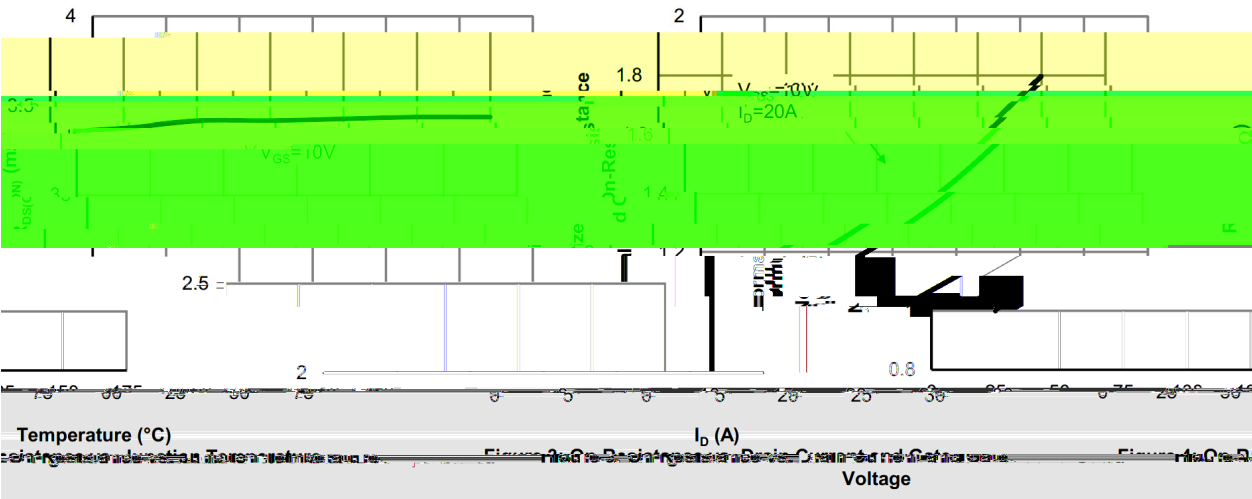
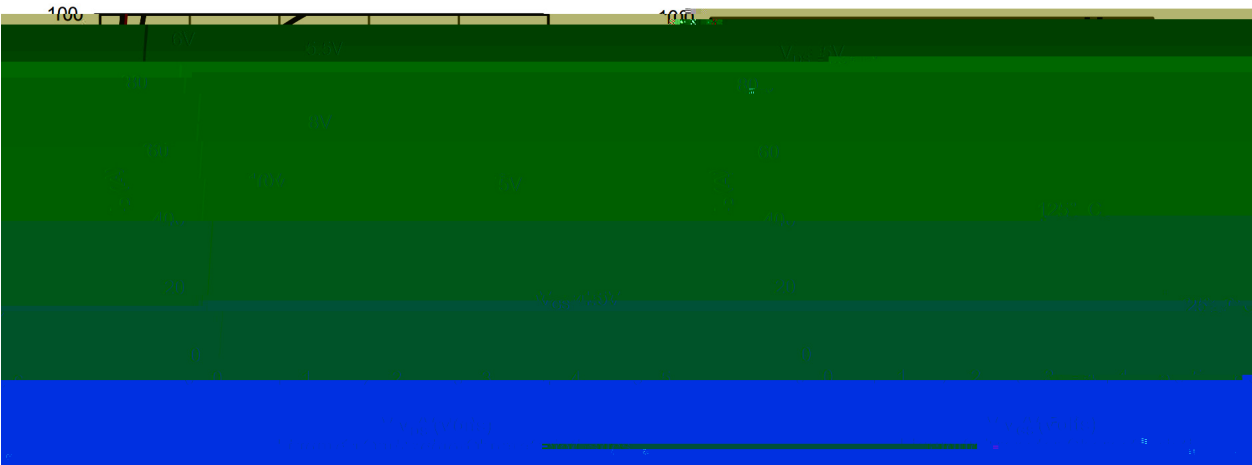
/ Electrical Characteristics($T_a=25^\circ\text{C}$)

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

BRCS035N06SHBDQ

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/ Electrical Characteristic Curve



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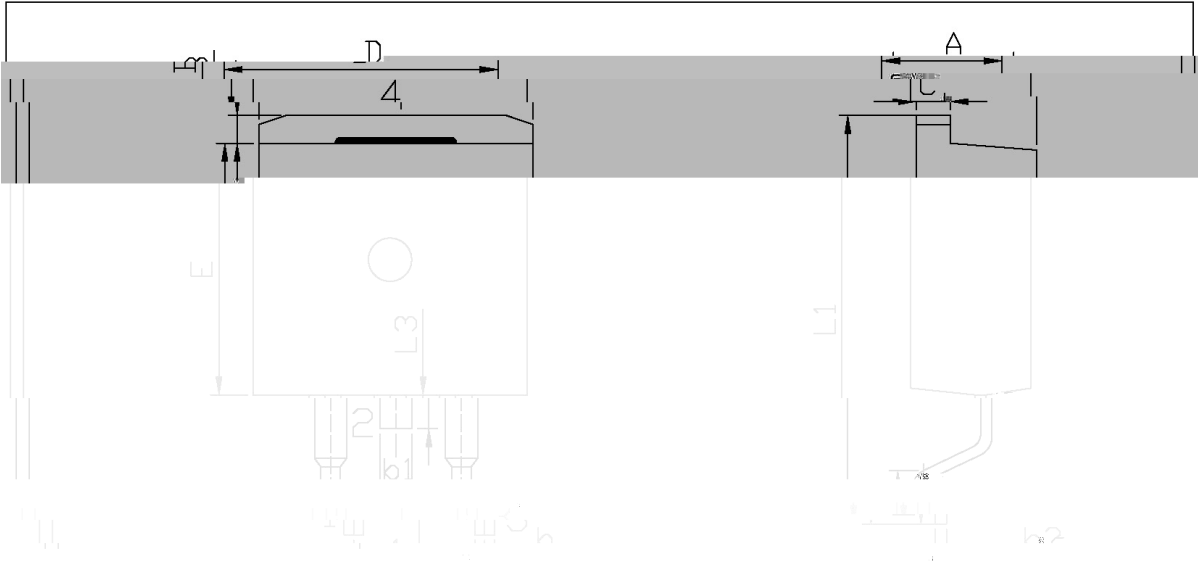
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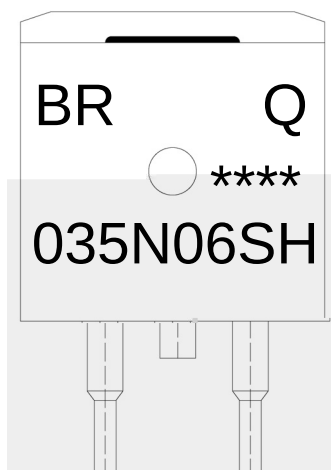
DATA SHEET

/ Package Dimensions



Max	Min	Max	Min
9.40	4.30	4.70	9.00
2.74	1.00	1.40	2.34
15.00	16.00	1.15	1.35

/ Marking Instructions



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

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DATA SHEET

() / Temperature Profile for IR Reflow Soldering(Pb-Free)