

N-Channel Enhancement Mode Field Effect Transistor in a TO-252 Plastic Package.

$V_{DS} (V) = 30V$ $I_D = 122 A$ ($V_{GS} = 20V$)

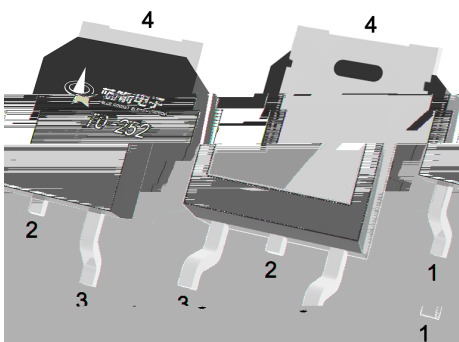
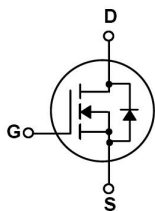
$R_{DS(ON)}@10V$ 3.5mR(Typ.3.4mR)

$R_{DS(ON)}@4.5V$ 6.5mR(Typ.5.0mR)

Qualified to AEC-Q101 Standards for High Reliability,

HF Product.

Load Switch Applications, Battery Power Management, Meet the stringent requirements of automotive applications.



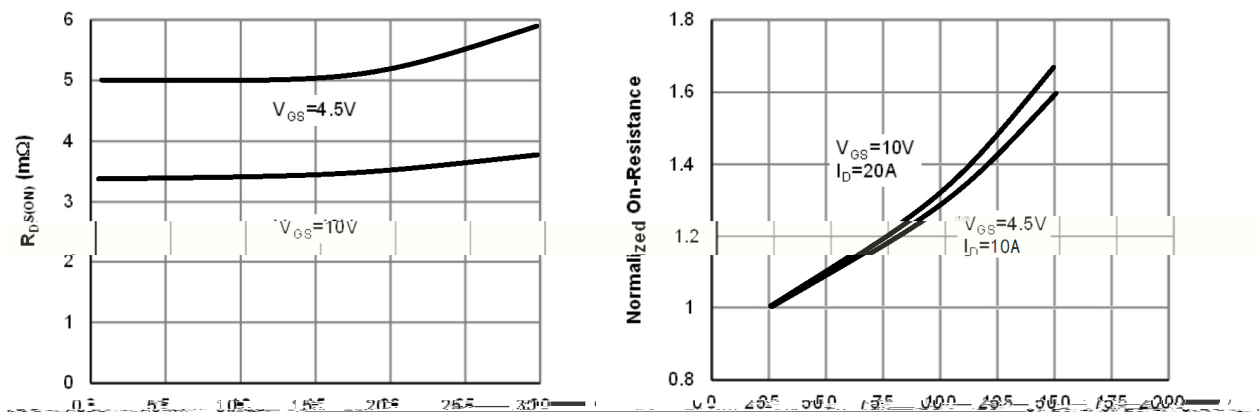
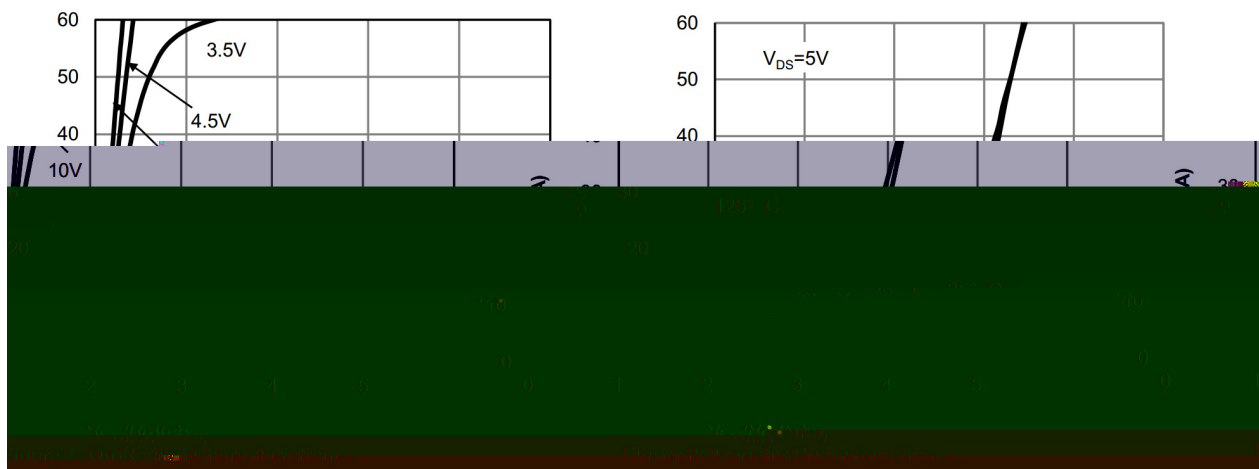
PIN1 G PIN 2 4 D PIN 3 S

See Marking Instructions.

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	30	V
Drain Current		$I_D(T_c=25^\circ\text{C})$	122	A
Drain Current - Pulsed		I_{DM}	260	A
Gate-Source Voltage		V_{GS}	± 20	V
Single Pulsed Avalanche Energy		E_{AS}	281	mJ
Avalanche Current		I_{AS}	26.5	A
Power Dissipation		$P_D(T_c=25^\circ\text{C})$	88	W
Operating and Storage Temperature Range		T_J, T_{stg}	-55 to 150	
Junction-to-Ambient	$t = 10$	R_{JA}	22	/W
Junction-to-Ambient	Steady-State		50	
Junction-to-Case	Steady-State	R_{JC}	1.42	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DS}	$V_{GS}=0V$ $I_D=250\text{ A}$	30	33		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V$ $V_{GS}=0V$			1	A
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 0.1	A
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\text{ A}$	1.0	1.7	3.0	V
Static Drain-Source On-Resistance	$R_{DS(on)1}$	$V_{GS}=10V$ $I_D=20A$		3.4	3.5	m
	$R_{DS(on)2}$	$V_{GS}=4.5V$ $I_D=10A$		5.0	6.5	m
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=1A$			1.4	V
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1MHz$		2200		pF
Output Capacitance	C_{oss}			145		
Reverse Transfer Capacitance	C_{rss}			210		
Gate resistance	R_g	$V_{GS}=0V$ $V_{DS}=0V$ $f=1MHz$		2.0		

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10V$ $V_{DS}=15V$ $I_D=20A$		32		nC
Total Gate Charge	$Q_{g(4.5V)}$			15		
Gate Source Charge	Q_{gs}			5.2		
Gate Drain Charge	Q_{gd}			6.5		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=15V$ $R_L=0.75$ $R_{GEN}=3$		8.5		ns
Turn-On Rise Time	t_r			4.2		
Turn-Off Delay Time	$t_{d(off)}$			30		
Turn-Off Fall Time	t_f			5.7		



(A)
Drain Current vs. Drain-Source Voltage

Figure 4: On-Resistance vs. Junction Temperature

Figure 3: On-Resistance vs. Gate Voltage

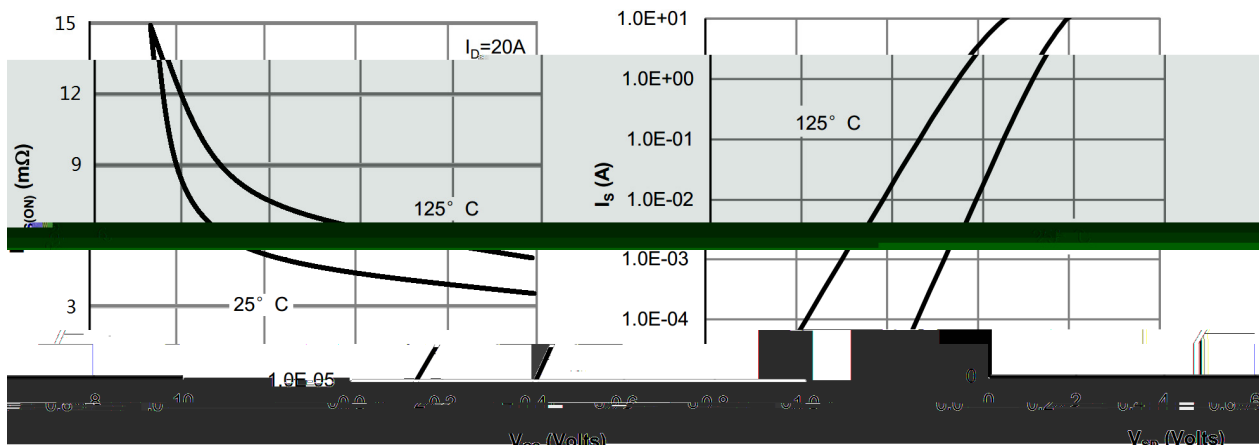


Figure 5: On-Resistance vs. Gate-Source Voltage

Figure 6: Body Diode Forward Current vs. Body-Source Voltage

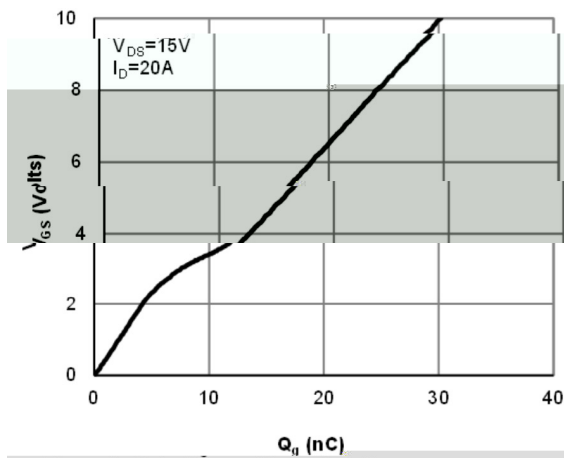


Figure 7: Gate-Charge Characteristics

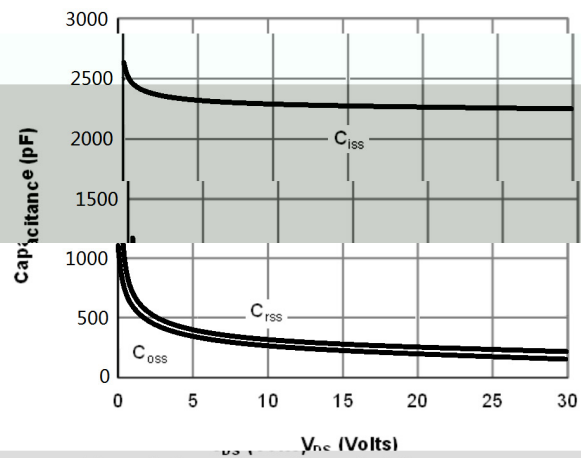


Figure 8: Capacitance Characteristics

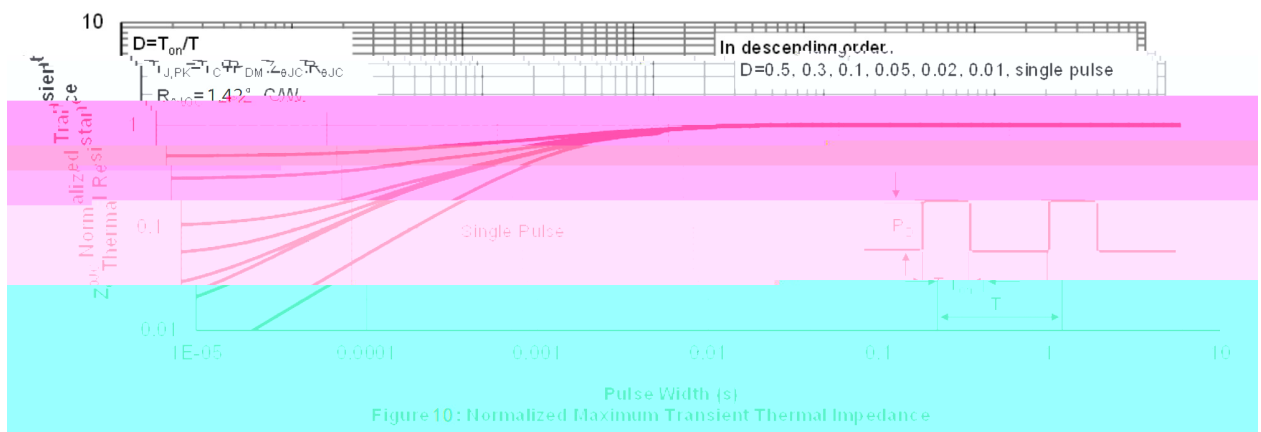
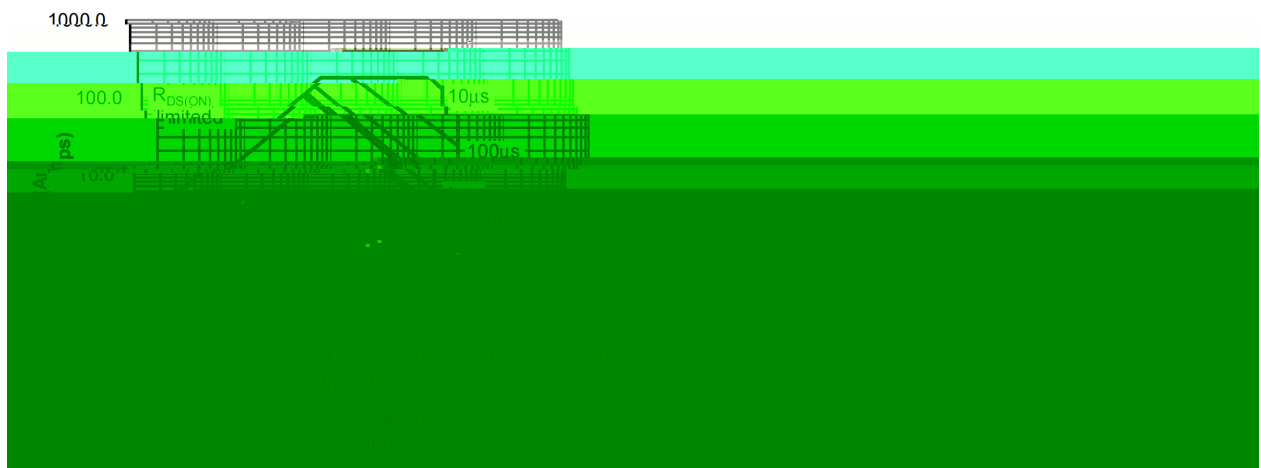
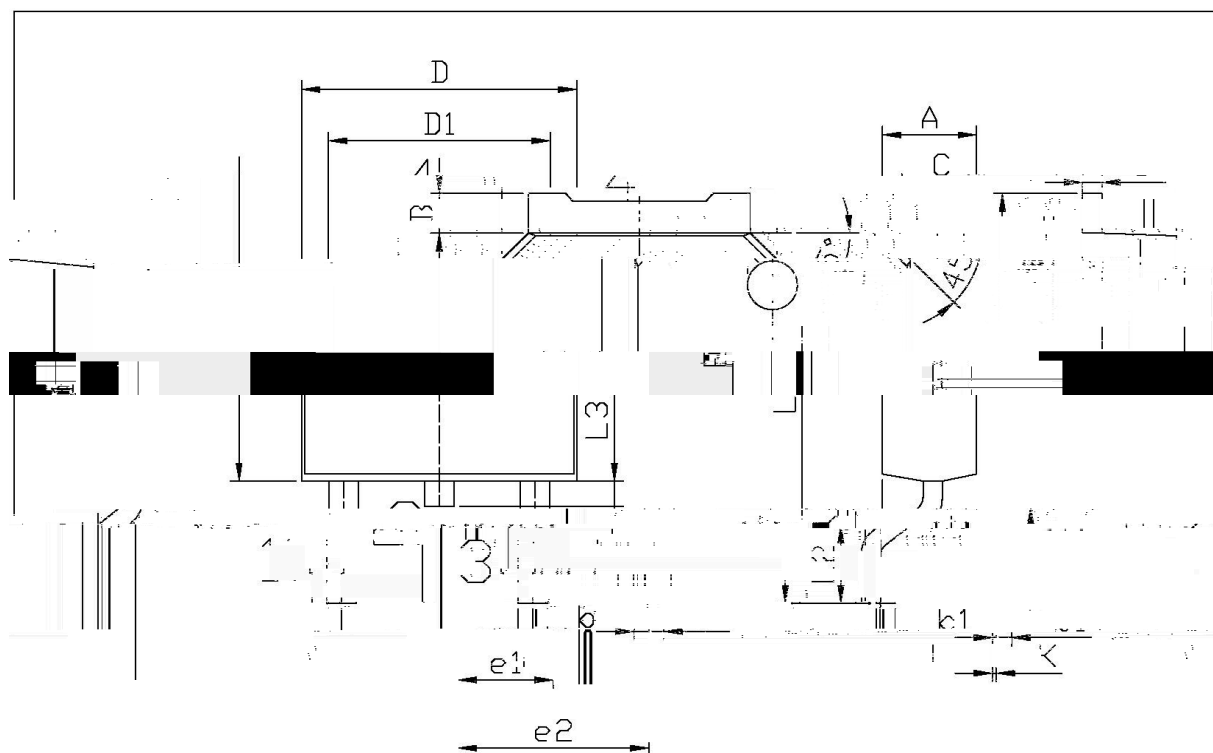


Figure 10: Normalized Maximum Transient Thermal Impedance

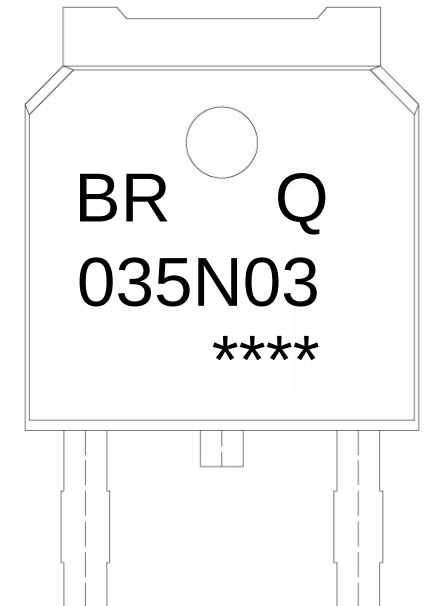


单位: mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
1.25	5.95	6.25	B	0.95	1.25
e1	2.24	2.34	b1	0.70	0.80
0.60	0.55	0.73	L2	1.70	2.00
45	0.55	9.85	6.45	6.75	11.30
0.60	0.90	1.10	J1	5.50	5.80
K	0.00	0.10			

52

T0-2



BR

Q

Note:

BR: Company Code

Q: Automobile halogen-free product Code

035N03: Product Type Code

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

Note:

- 1

150 200

60 120sec;

1.Preheating:150~200 , Time:60~120sec.
- 2

255 5

5 0.5sec;

2.Peak Temp.:255 5 , Duration:5 0.5sec.
- 3

2 10

/sec.

3. Cooling Speed: 2~10 /sec.