

Rev.B May-2026

TO-252 N MOS

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

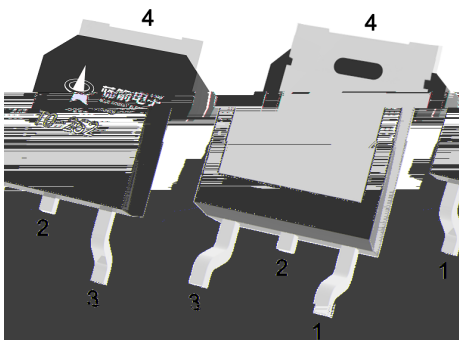
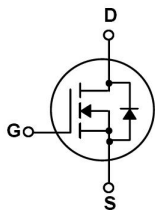
$V_{DS} (V) = 30V$ $I_D = 122 A$ ($V_{GS} = \pm 20V$)

$R_{DS(ON)} @ 10V \leq 3.5m\Omega$ (Typ. 3.4m Ω)

$R_{DS(ON)} @ 4.5V \leq 6.5m\Omega$ (Typ. 5.0m Ω)

。 HF Product.

Load Switch Applications, Battery Power Management.



PIN1 G PIN 2 4 D PIN 3 S

See Marking Instructions.

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	30	V
Drain Current		$I_D(T_C=25^\circ\text{C})$	122	A
		$I_D(T_C=100^\circ\text{C})$	86	A
Drain Current - Pulsed		I_{DM}	260	A
Gate-Source Voltage		V_{GSS}	± 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
Junction and Storage Temperature Range		T_J, T_{stg}	-55 to 150	
Junction-to-Ambient	$t \leq 10$	R_{JA}	22	$^\circ\text{C/W}$
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_{DSS}	$V_{GS}=0V$ $I_D=250\text{ A}$	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}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1\text{MHz}$		2200		pF
Output Capacitance	C_{oss}			145		
Reverse Transfer Capacitance	C_{rss}			210		
Gate resistance	R_g	$V_{GS}=0V$ $V_{DS}=0V$ $f=1\text{MHz}$		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	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=15V$ $R_L=0.75\ \Omega$ $R_{GEN}=3\ \Omega$		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		

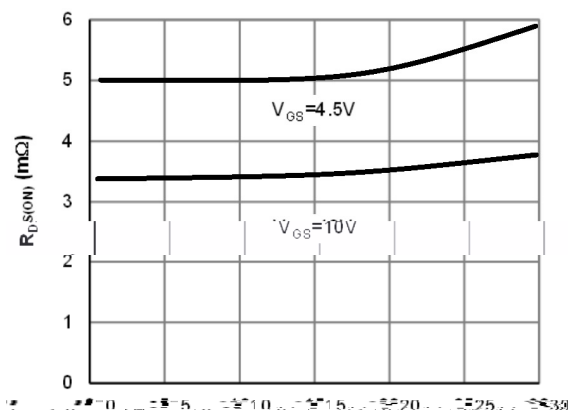
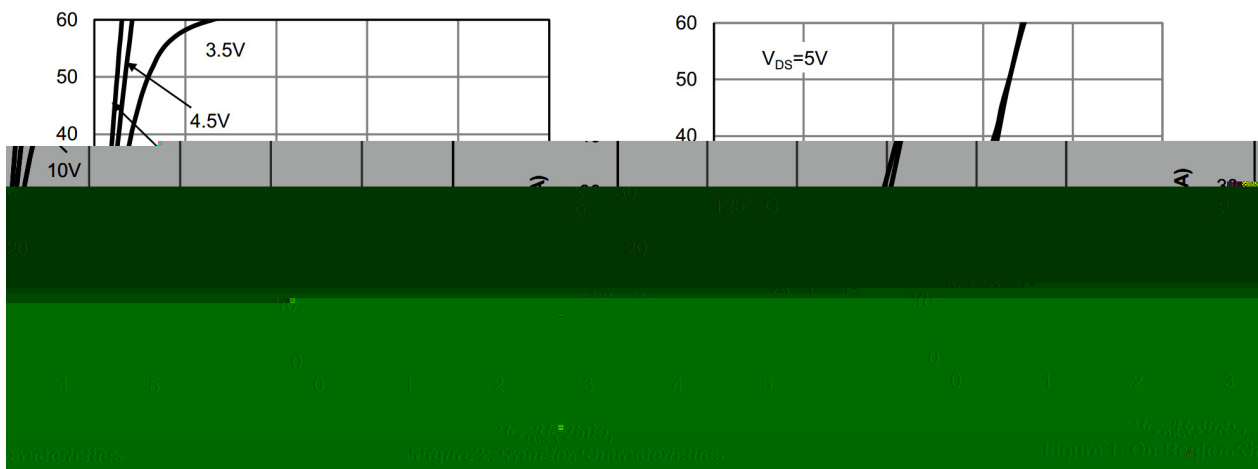


Figure 4: On-Resistance vs. Junction Temperature

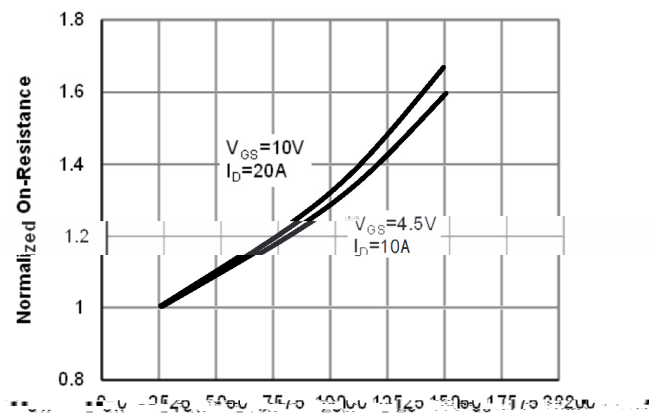
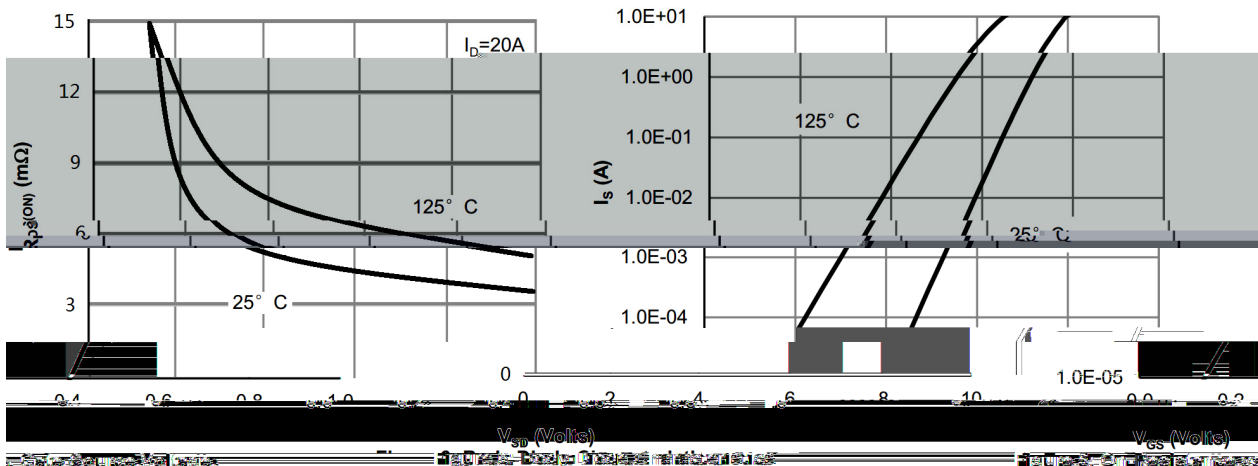


Figure 3: On-Resistance vs. Drain Current and Gate Voltage



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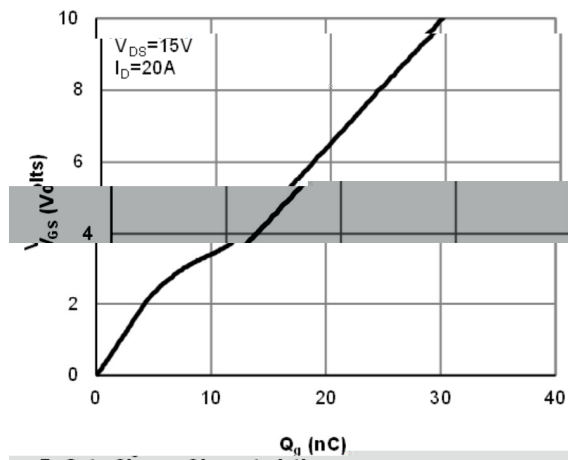


Figure 7: Gate-Charge Characteristics

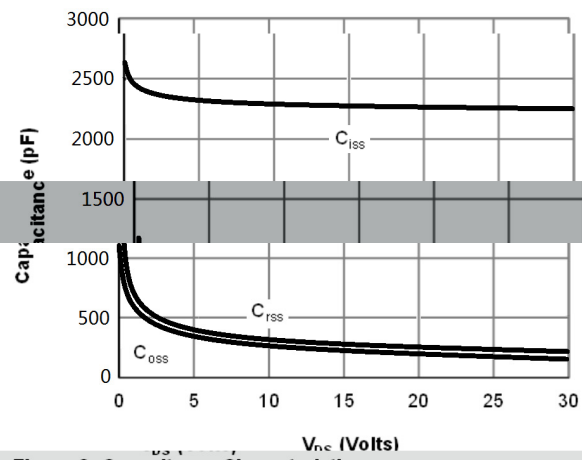
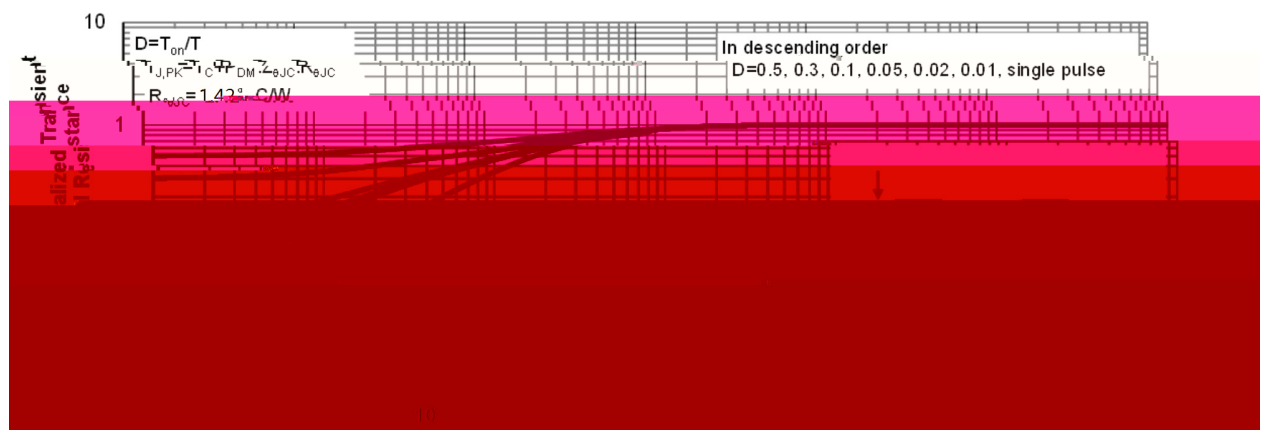
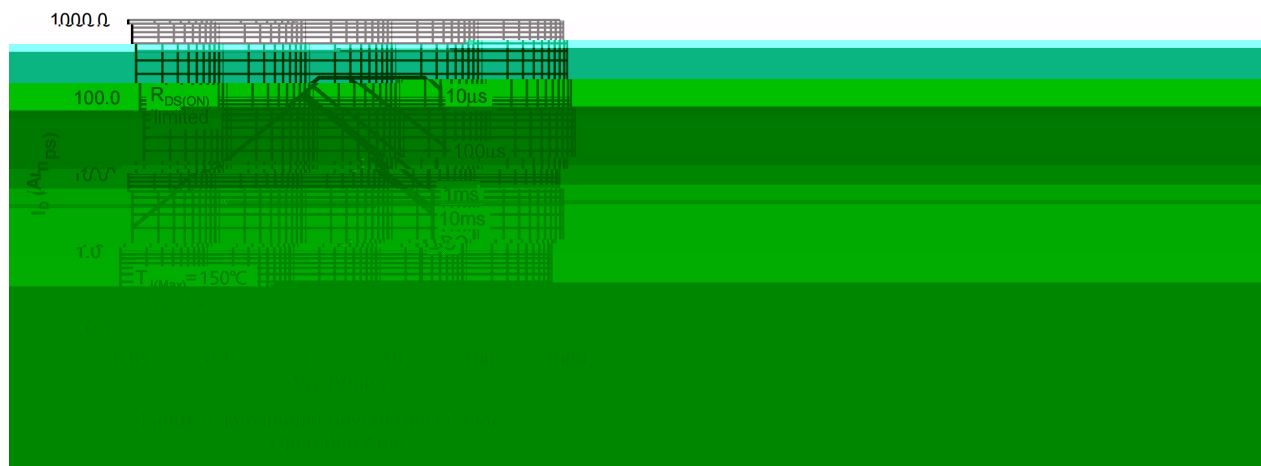
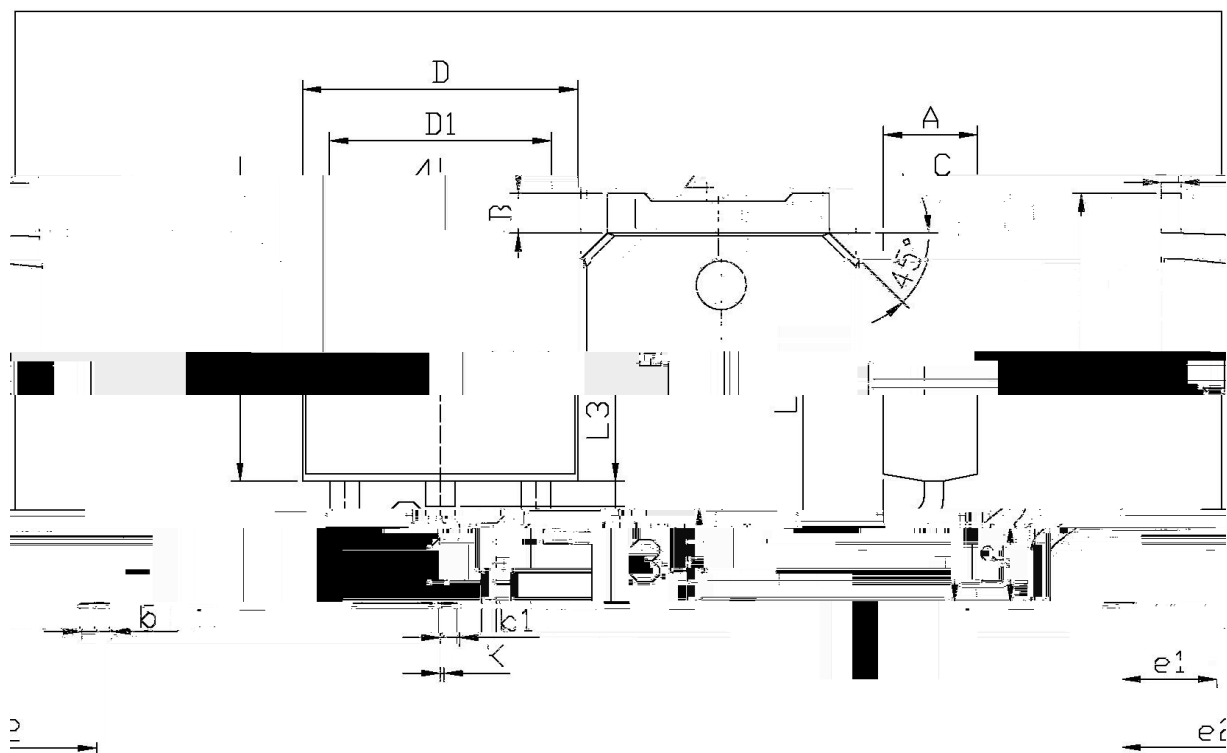


Figure 8: Capacitance Characteristics

Fig

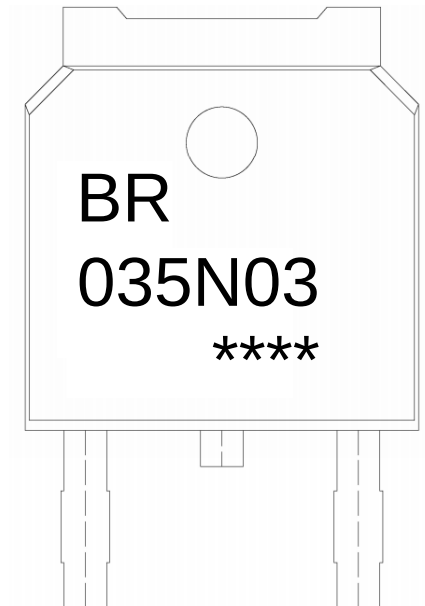




单位: mm

Symbol		Dimensions In Millimeters		Symbol		Dimensions In Millimeters	
		Min	Max			Min	Max
E	5.95	6.25		B	2.20	2.40	
e1	2.24	2.34		B1	0.95	1.25	
	4.42	4.68		b1	0.40	0.60	
L1	9.85	10.35		b	0.45	0.55	
	0.45	0.55			1.20	1.70	2.00
90	D	6.45		6.75	1.3	0.60	0
0.00	0.10			D1	5.10	5.50	K

T0-252



BR

035N03

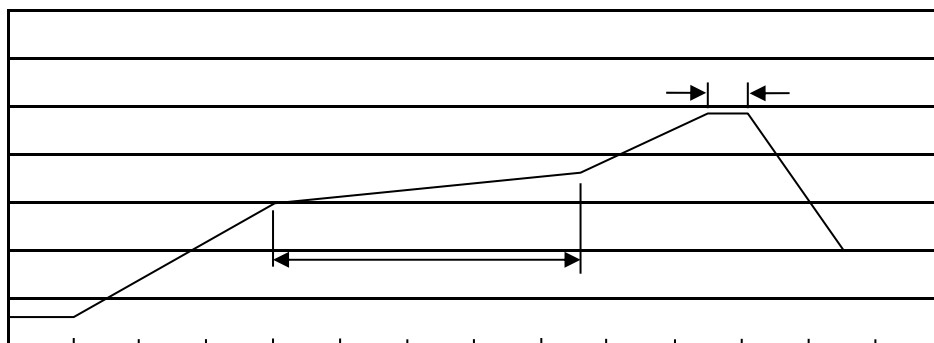
Note:

BR: Company Code

035N03: Product Type Code

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

Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- | | | | |
|---|------------|-----------|---|
| 1 | 150 180 | 60 90sec; | 1.Preheating:150~180 , Time:60~90sec. |
| 2 | 245±5 | 5±0.5sec; | 2.Peak Temp.:245±5 , Duration:5±0.5sec. |
| 3 | 2 10 /sec. | | 3. Cooling Speed: 2~10 /sec. |

260±5

10±1 sec.

Temp.:260±5

Time:10±1 sec

/ REEL

Package Type	Units					Dimension (unit mm ³)		
	Units/Reel /	Reels/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Reel	Inner Box	Outer Box
TO-252	2,500	2	5,000	6	30,000	13" ×16	360×360×50	380×335×366

/ TUBE

Package Type	Units					Dimension (unit mm ³)		
	Units/Tube /	Tubes/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Tube	Inner Box	Outer Box
TO-251/252	75	48	3,600	5	18,000	526×20.5×5.25	555×164×50	575×290×180

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