

TO-252 N MOS

N-CHANNEL MOSFET in a TO-252 Plastic Package.

$V_{DS}(V) = 20V$ $I_D=65A(V_{GS} = \pm 12V)$

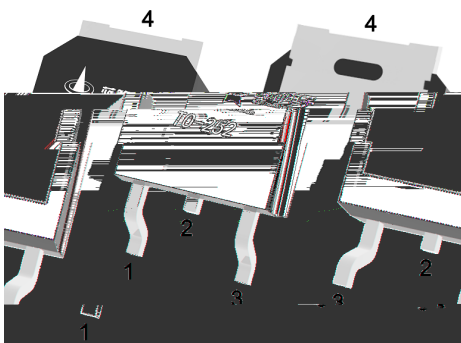
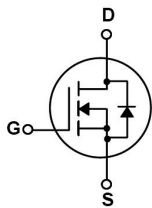
$R_{DS(ON)}@4.5V \leq 8m\Omega(Typ. 5m\Omega)$

$R_{DS(ON)}@2.5V \leq 10m\Omega(Typ. 6.2m\Omega)$

HF Product.

DC/DC

These devices are well suited for high efficiency switching DC/DC converters and switch mode power supplies.



PIN1 G

PIN 2 D

PIN 3 S

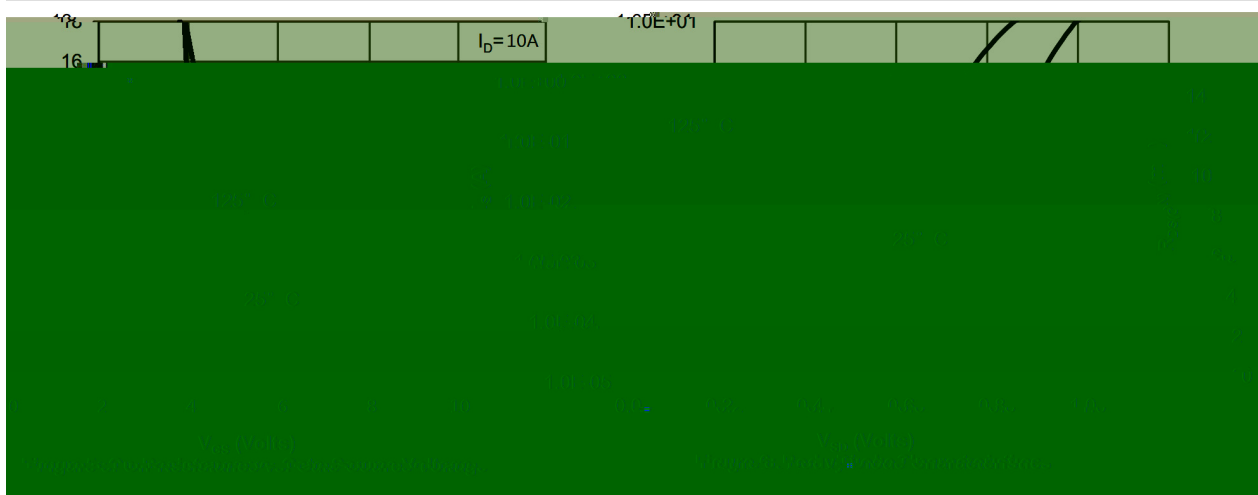
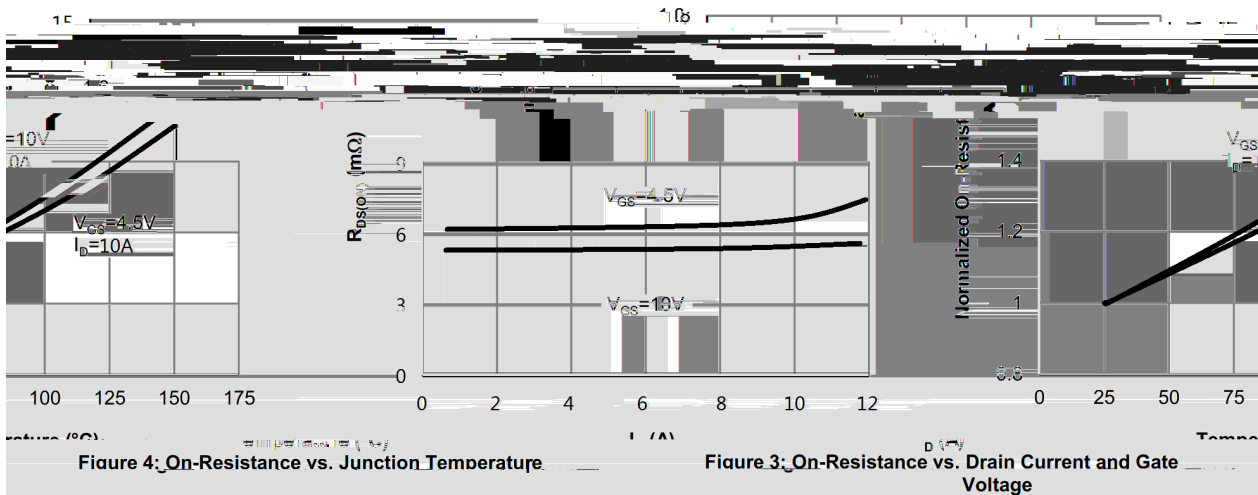
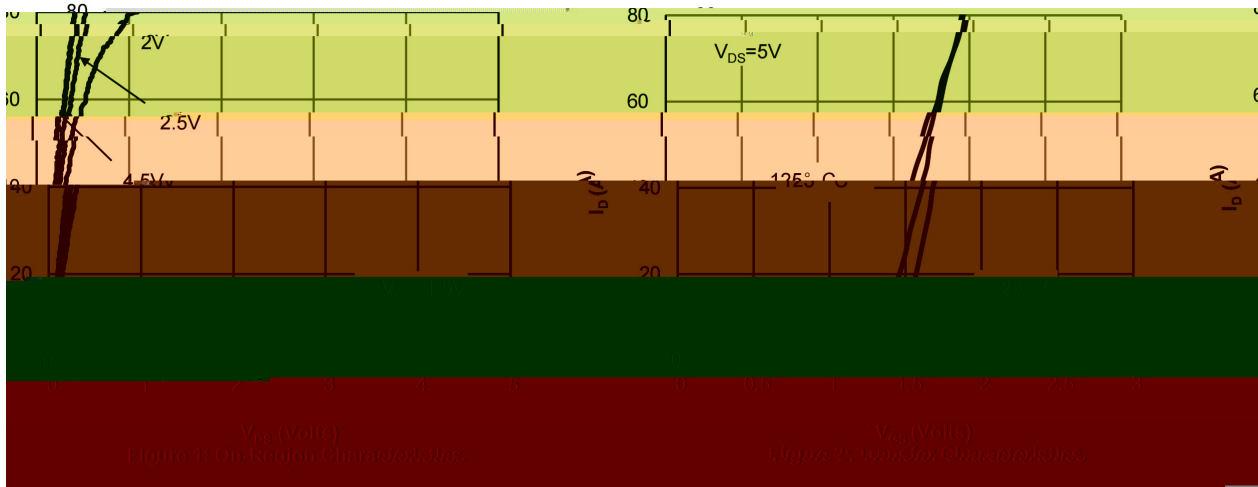
PIN 4 D

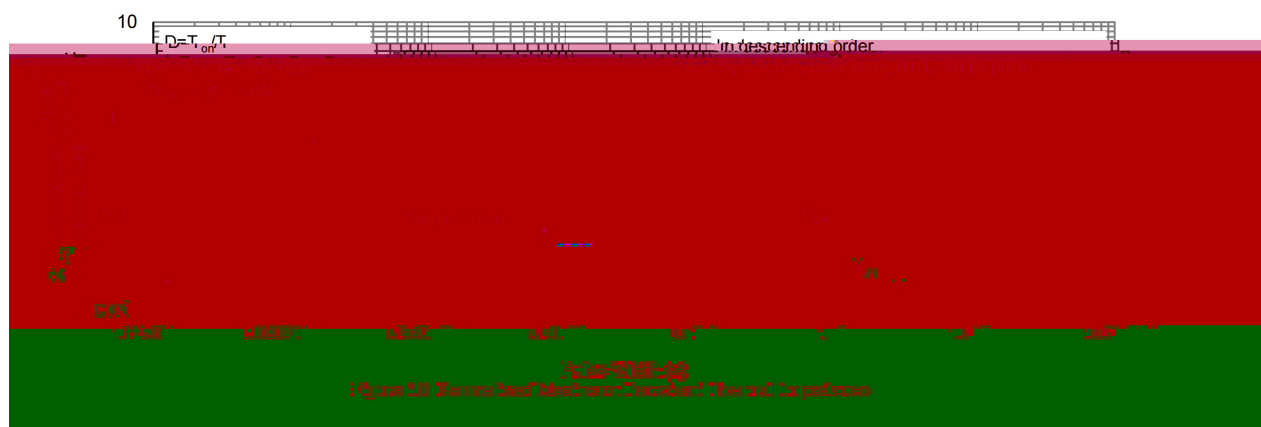
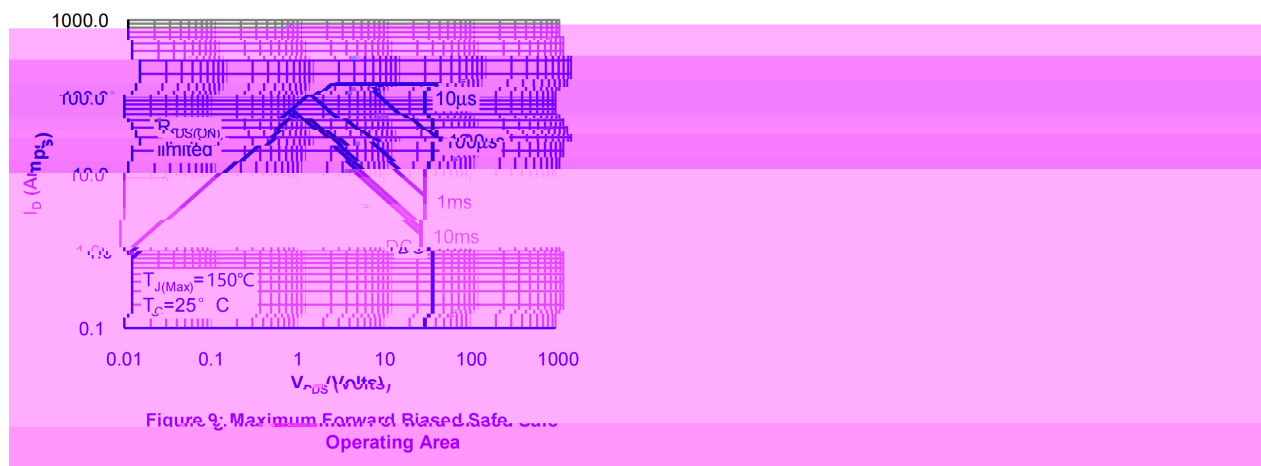
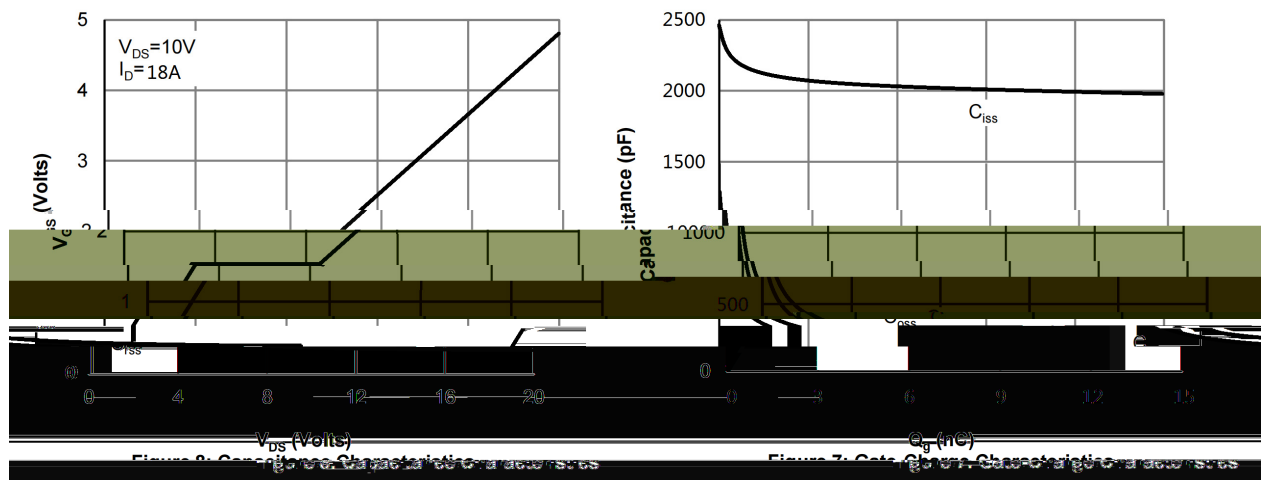
See Marking Instructions.

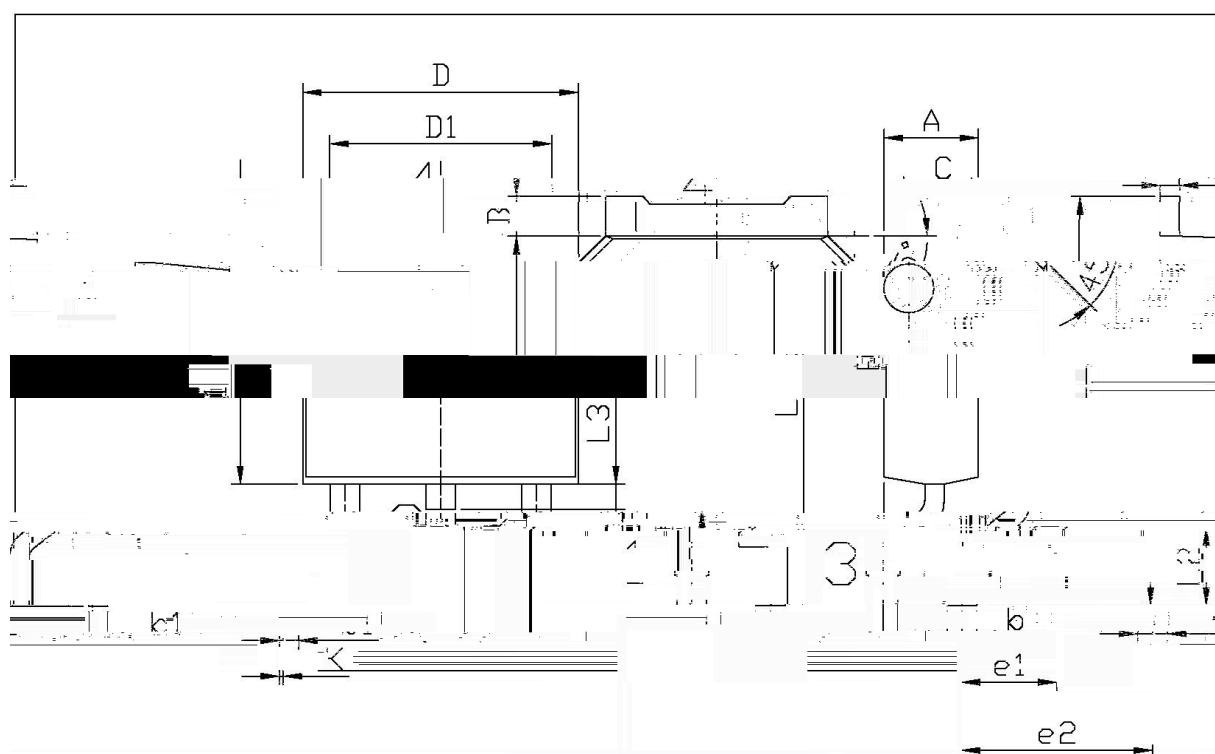
Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	20	V
Drain Current		$I_D(T_c=25^\circ\text{C})$	65	A
Peak Drain Current		I_{DM}	157	A
Gate-Source Voltage		V_{GS}	12	V
Avalanche Current		I_{AS}	19	A
Single Pulsed Avalanche Energy		E_{AS}	361	mJ
Total Power Dissipation		$P_D(T_c=25^\circ\text{C})$	52	W
Junction and Storage Temperature Range		T_J, T_{STG}	-55 to 150	
Thermal resistance, junction - ambient	$t \leq 10\text{s}$	$R_{\theta JA}$	20	/W
	Steady-State		50	
Thermal resistance, junction - case	Steady-State	$R_{\theta JC}$	1.55	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Zero Gate Voltage Drain Current	BV_{DS}	$V_{GS}=0\text{V}$ $I_D=250\mu\text{A}$	20	24		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=20\text{V}$ $V_{GS}=0\text{V}$			1	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 12\text{V}$ $V_{DS}=0\text{V}$			± 0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu\text{A}$	0.5	0.6	1.1	V
Forward On Voltage	V_{SD}	$I_S=1\text{A}$ $V_{GS}=0\text{V}$			1.2	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=4.5\text{V}$ $I_D=10\text{A}$		5	8	$\text{m}\Omega$
		$V_{GS}=2.5\text{V}$ $I_D=10\text{A}$		6.2	10	$\text{m}\Omega$
Gate resistance	R_g	$V_{GS}=0\text{V}$ $V_{DS}=0\text{V}$ $f=1\text{MHz}$		2		Ω
Input Capacitance	C_{iss}	$V_{GS}=0\text{V}$ $V_{DS}=15\text{V}$ $f=1.0\text{MHz}$		2000		pF
Output Capacitance	C_{oss}			170		pF
Reverse Transfer Capacitance	C_{rss}			160		pF

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	Q_g	$V_{GS}=4.5V, \quad V_{DS}=10V,$ $I_D=18A$		14.7		nC
Gate Source Charge	Q_{gs}			1.9		
Gate Drain Charge	Q_{gd}			4.7		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=4.5V \quad V_{DS}=10V$ $R_L=0.75\Omega \quad R_{GEN}=3\Omega$		13		ns
Turn-On Rise Time	t_r			23		ns
Turn-Off Delay Time	$t_{d(off)}$			60		ns
Turn-Off Fall Time	t_f			35		ns





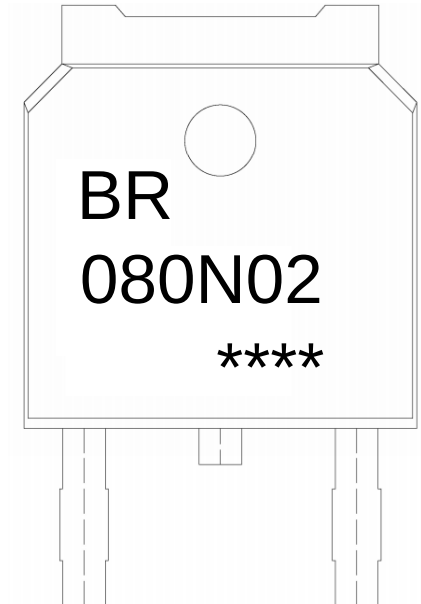


单位: mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
L	5.95	6.25	F	2.20	2.40
e1	2.20	2.34	B	0.95	1.25
2	0.70	0.72	3	0.70	0.80
0.45	0.55	0.85	0.35	0.51	
0.45	0.45	0.55	12	1.70	2.00
0.60	0.90	0.90	D	6.45	6.75
0.00	0.10	0.10	D1	5.10	5.50
			L3		

52

T0=2



BR

080N02

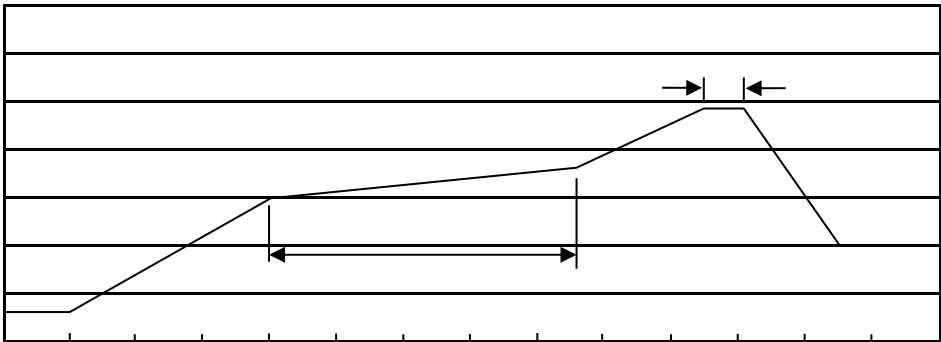
Note:

BR: Company Code

080N02: 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