

TO-252 N MOS

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

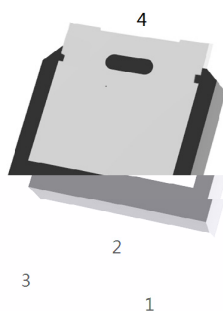
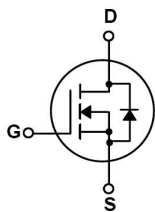
$$V_{DS} \text{ (V)} = 150\text{V}$$
$$I_D = 25A \text{ (} V_{GS} = \pm 20V \text{)}$$

$R_{DS(ON)}@10V \leq 40mR$
HF Product.

DC/DC AC/DC

DC/DC

Synchronous Rectification in DC/DC and AC/DC Converters, Isolated DC/DC Converters in Telecom and Industrial.



PIN1 G

PIN 2 D

PIN 3 S

PIN 4 D

/ Absolute Maximum Ratings(Ta=25)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	150	V
Drain Current		$I_D(T_c=25^\circ\text{C})$	25	A
Drain Current - Pulsed		I_{DM}	49	A
Gate-Source Voltage		V_{GS}	± 20	V
Single Pulsed Avalanche Energy		E_{AS}	18.4	mJ
Avalanche Current		I_{AS}	7.0	A
Power Dissipation		$P_D(T_c=25^\circ\text{C})$	50	W
Operating and Storage Temperature Range		T_J, T_{stg}	-55 to 150	
Junction-to-Ambient	$t \leq 10$	$R_{\theta JA}$	25	/W
Junction-to-Ambient	Steady-State		55	
Junction-to-Case	Steady-State	$R_{\theta JC}$	2.3	

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DS}	$V_{GS}=0V$	$I_D=250\mu A$	150	160		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=120V$	$V_{GS}=0V$			1	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20V$	$V_{DS}=0V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$	$I_D=250\mu A$	2	2.9	5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$	$I_D=10A$		37.5	40	m Ω
		$V_{GS}=6V$	$I_D=5A$		42	50	m Ω
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$	$I_S=1A$			1.2	V
Input Capacitance	C_{iss}	$V_{DS}=25V$ $f=1.0MHz$	$V_{GS}=0V$		1200		pF
Output Capacitance	C_{oss}				600		
Reverse Transfer Capacitance	C_{rss}				70		
Gate resistance	R_g	$V_{GS}=0V$ $f=1MHz$	$V_{DS}=0V$		1.2		Ω
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10V$ $I_D=10A$	$V_{DS}=75V$		16		nC
Gate Source Charge	Q_{gs}				5		
Gate Drain Charge	Q_{gd}				4.6		

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	t					

Electrical Characteristic Curve

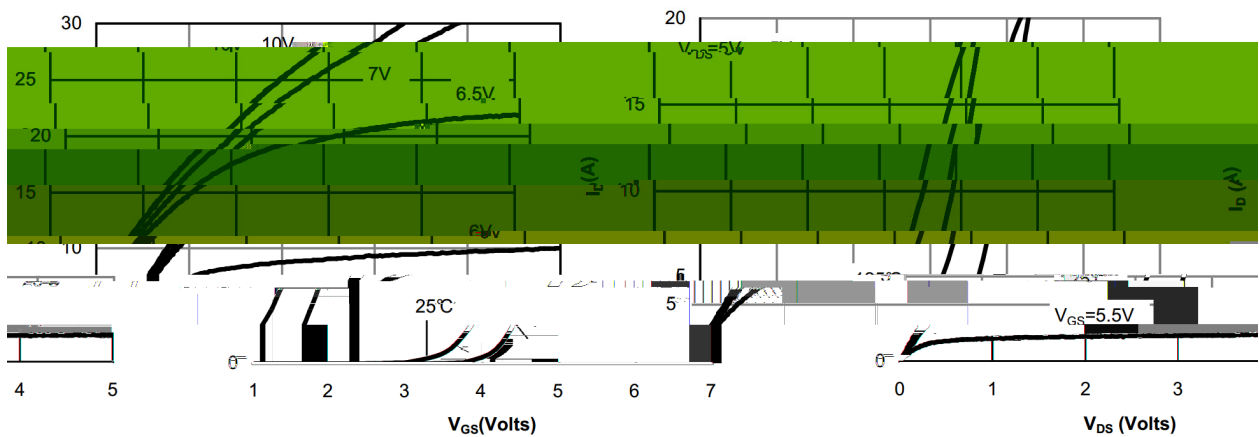


Figure 2: Transfer Characteristics

Fig 1: On-Region Characteristic

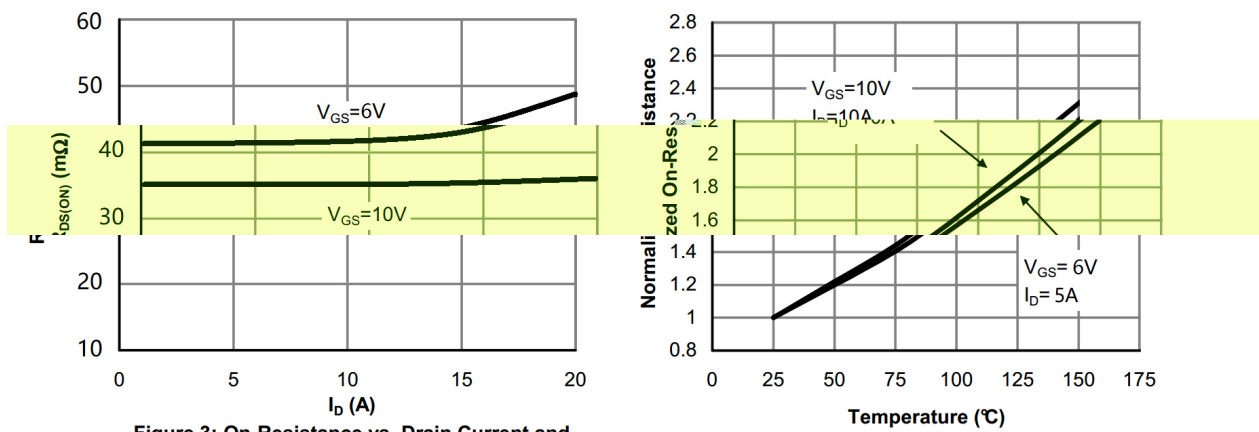


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

Figure 4: On-Resistance vs. Temperature

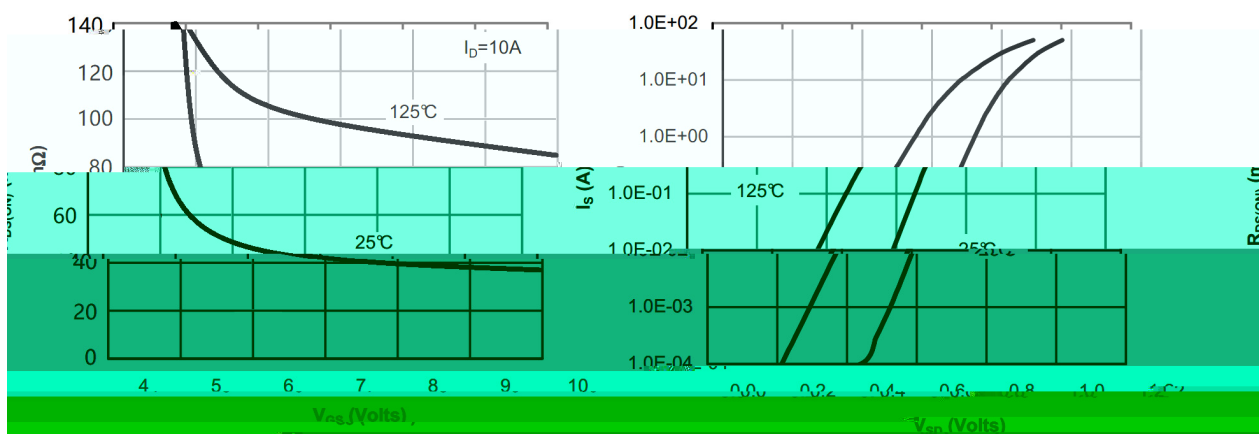


Figure 5: On-Resistance vs. Gate-Source Voltage

Figure 6: Body-Diode Characteristics

Electrical Characteristic Curve

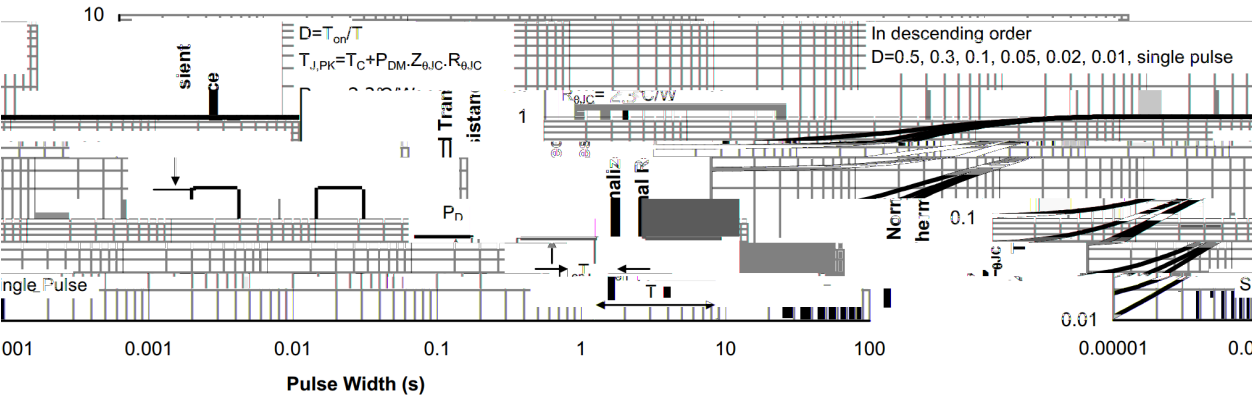
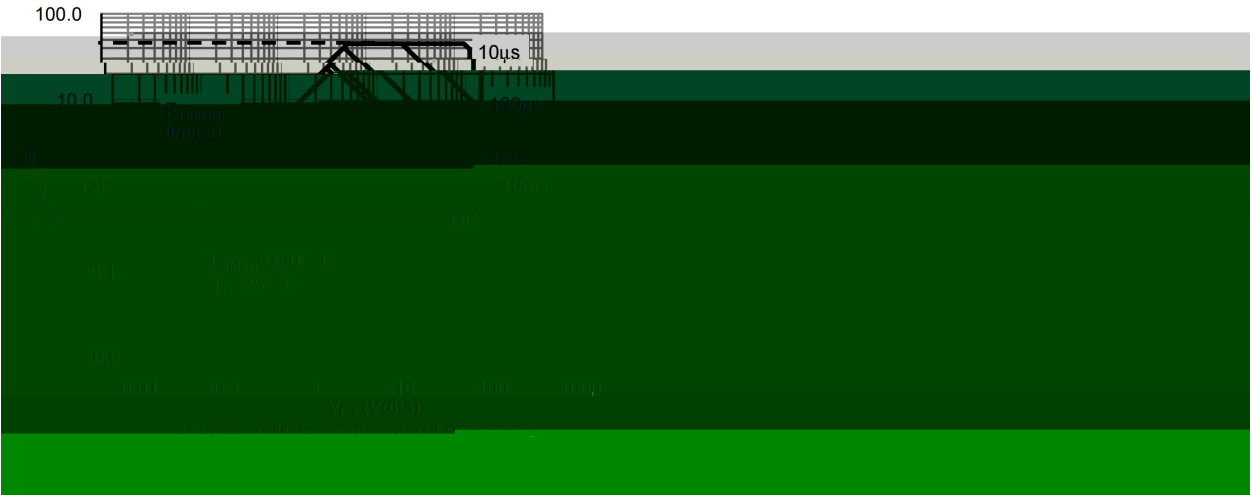
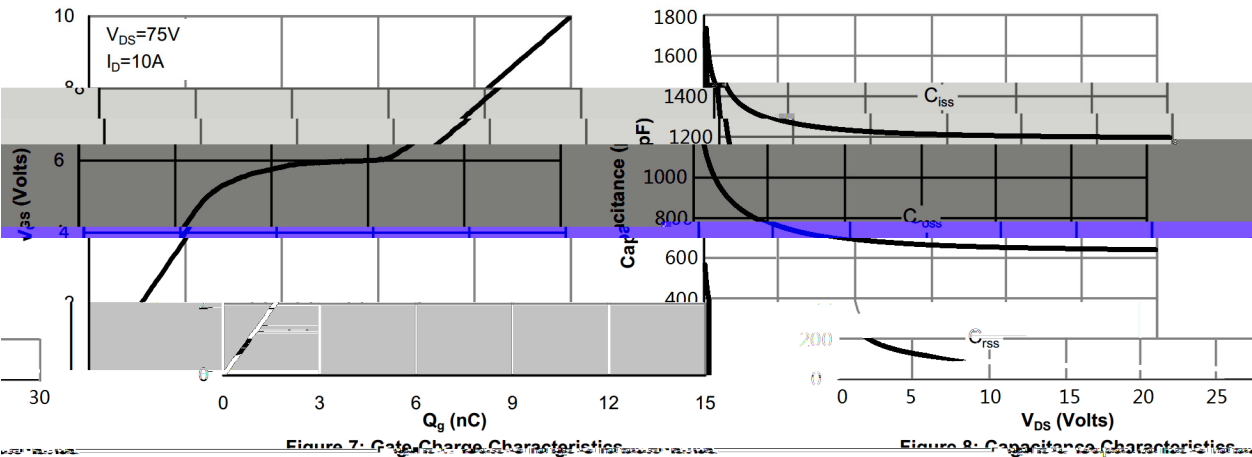
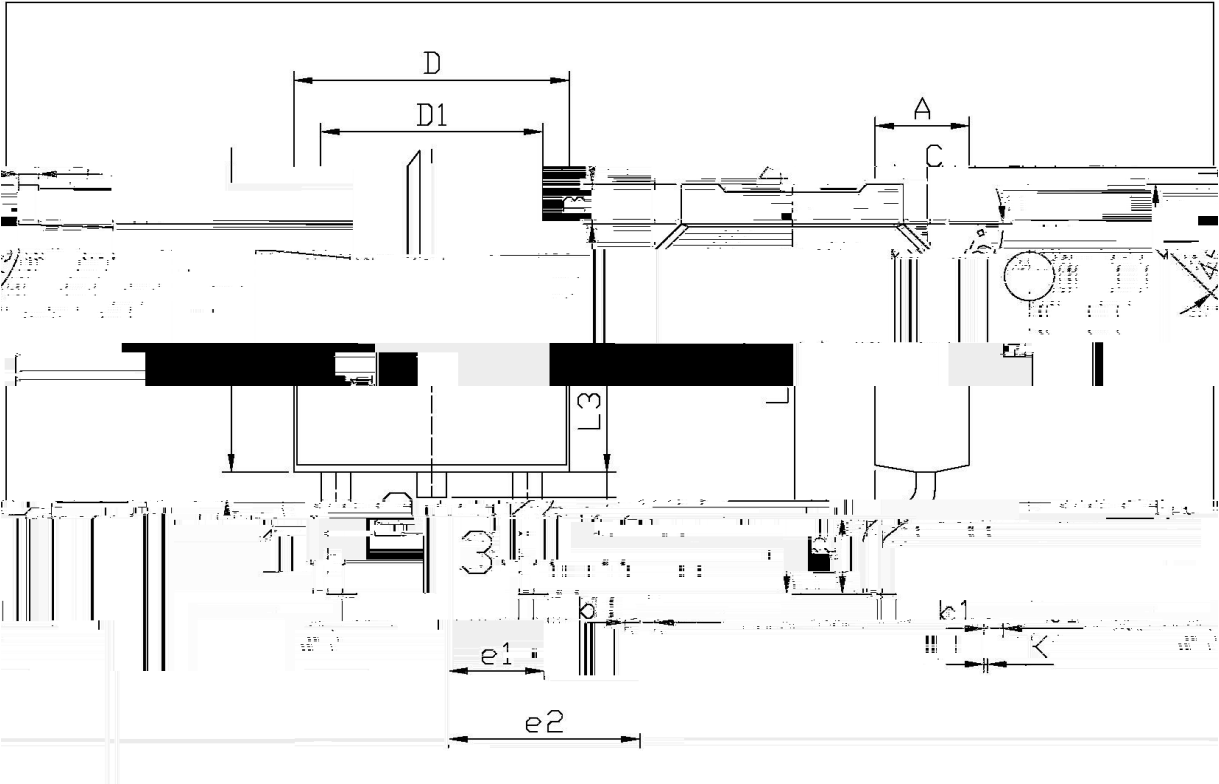


Figure 10: Normalized Maximum Transient Thermal Impedance

/ Package Dimensions

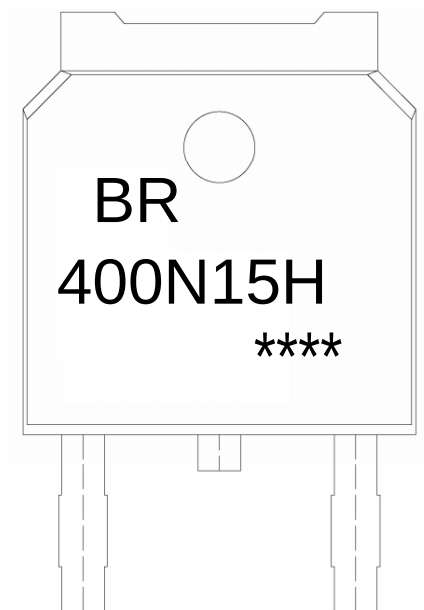


单位：mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	0.95	2.20	B	0.20	0.95
C	1.25	2.24	D	2.34	2.54
D1	0.00	4.42	L1	9.85	10.35
L2	0.45	0.55	L3	0.55	0.75
e1	0.90	1.20	e2	6.45	6.75
b1	0.10	0.10	b2	5.10	5.50

TO-252

/ Marking Instructions



BR

400N15H

Note:

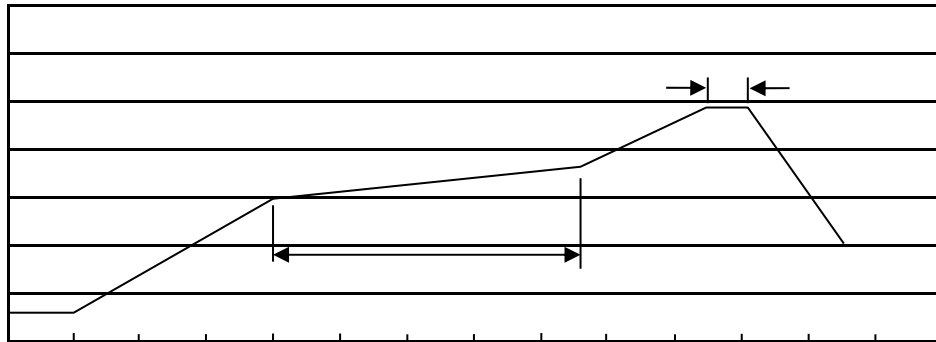
BR: Company Code

400N15H: Product Type

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



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Note:

- 1 150 180 60 90sec;
 2 245±5 5±0.5sec;
 3 2 10 /sec.

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

/ Resistance to Soldering Heat Test Conditions

260±5

10±1 sec.

Temp.:260±5

Time:10±1 sec

/ Packaging SPEC.

/ 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

/ Notices