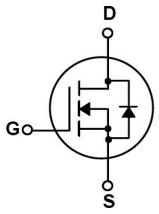
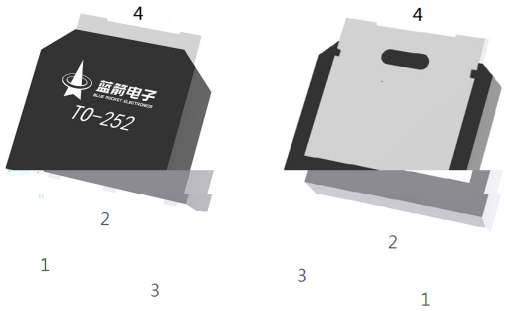
TO-252 N MOS
N-CHANNEL MOSFET in a TO-252 Plastic Package.

V_{DS} (V) = 150V
I_D =25A (V_{GS} = ± 20V)
$R_{DS(ON)}$@10V ≤ 40mR
HF Product.

DC/DC AC/DC DC/DC
Synchronus 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_{DSS}	150	V
Drain Current		I_D(Tc=25)	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(Tc=25)	50	W
Operating and Storage Temperature Range		T_J,T_{stg}	-55 to 150	
Junction-to-Ambient	t ≤ 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_{DSS}	V_{GS}=0V	I_D=250μA	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}=±20V	V_{DS}=0V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}	I_D=250μA	2	2.9	5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V	I_D=10A		37.5	40	mΩ
		V_{GS}=6V	I_D=5A		42	50	mΩ
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

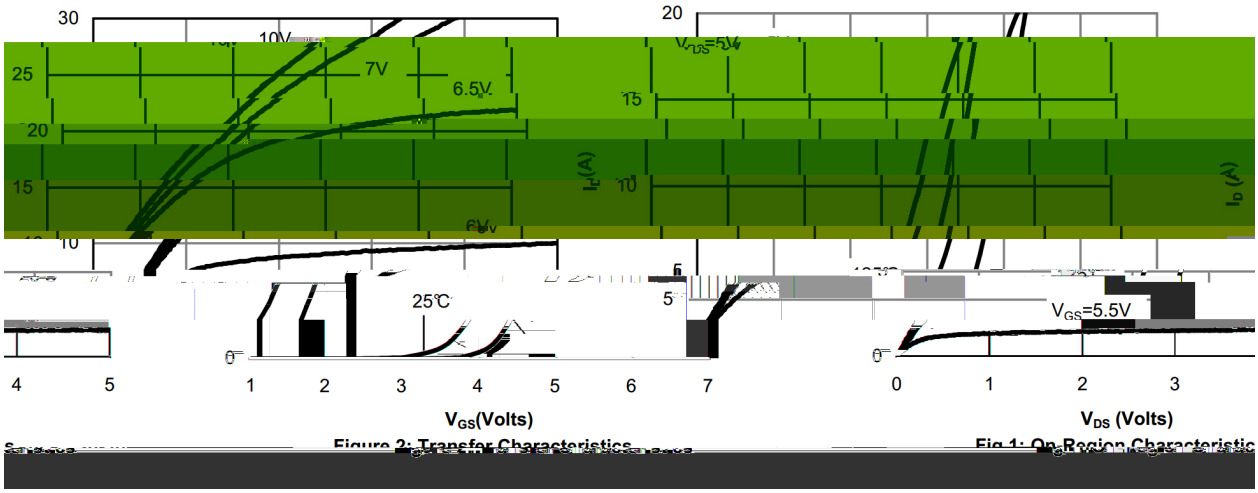


Figure 2: Transfer Characteristics

Fig 1: On-Region Characteristic

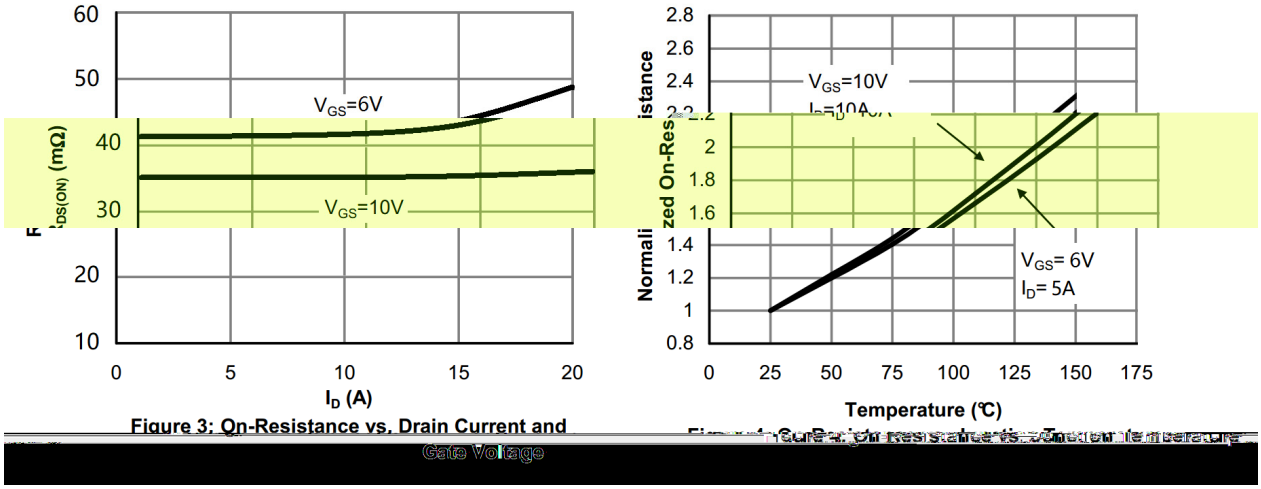


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

Figure 4: On-Resistance vs. Junction Temperature

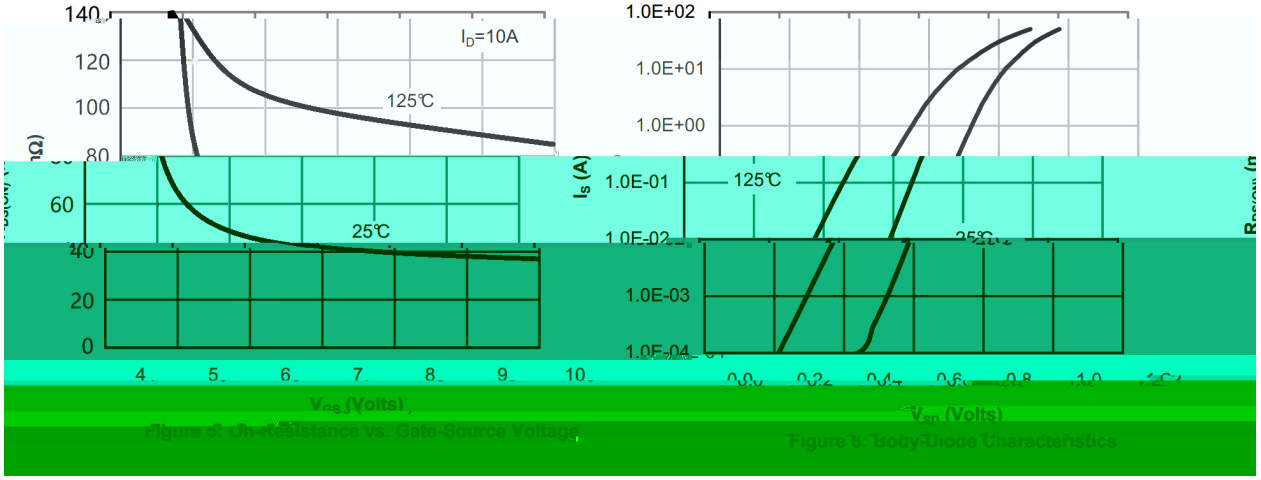


Figure 5: On-Resistance vs. Gate-Source Voltage

Figure 6: Body-Diode Characteristics

Electrical Characteristic Curve

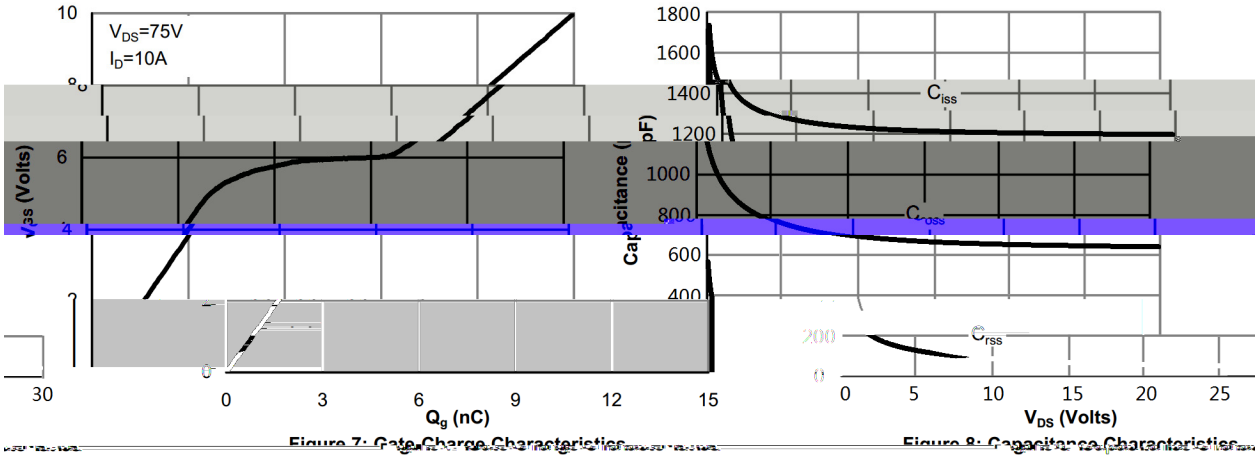
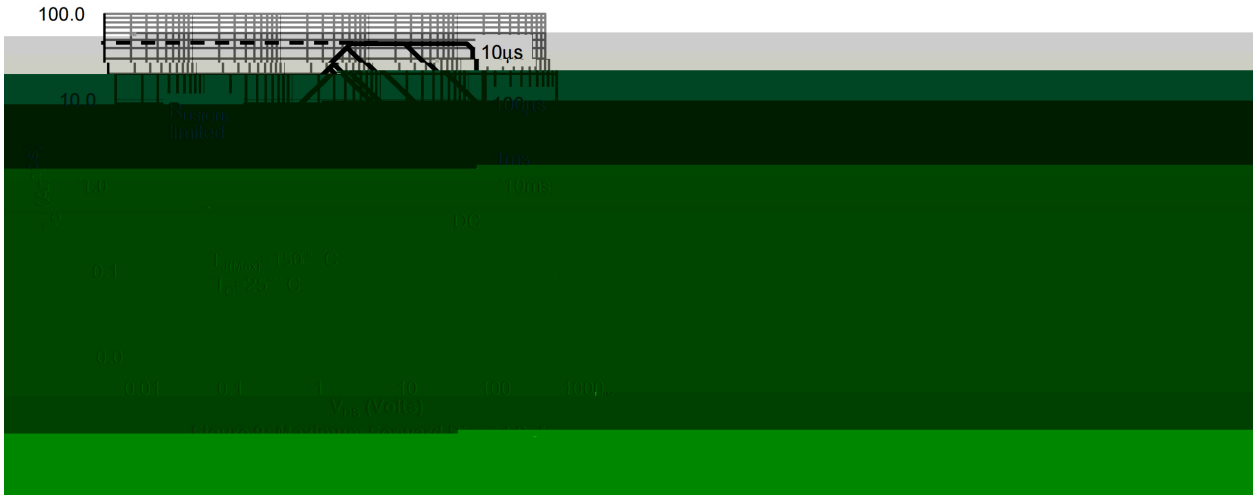


Figure 7: Gate Charge Characteristics

Figure 8: Capacitance Characteristics



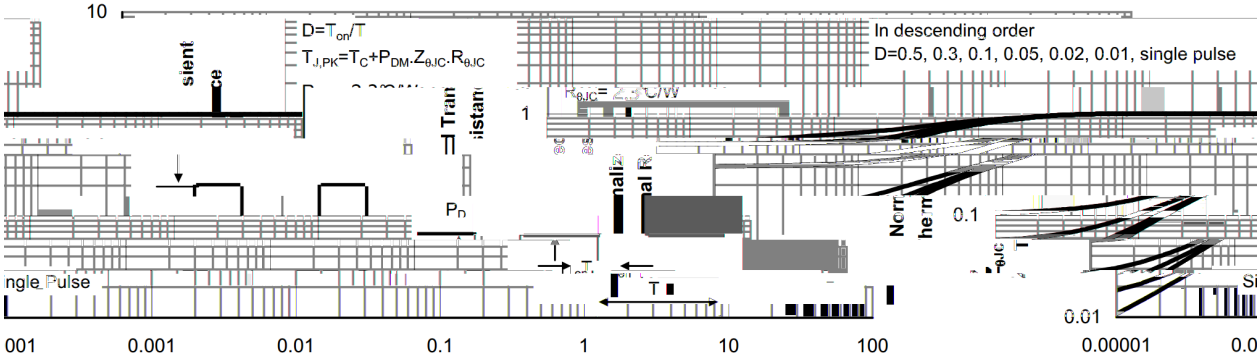
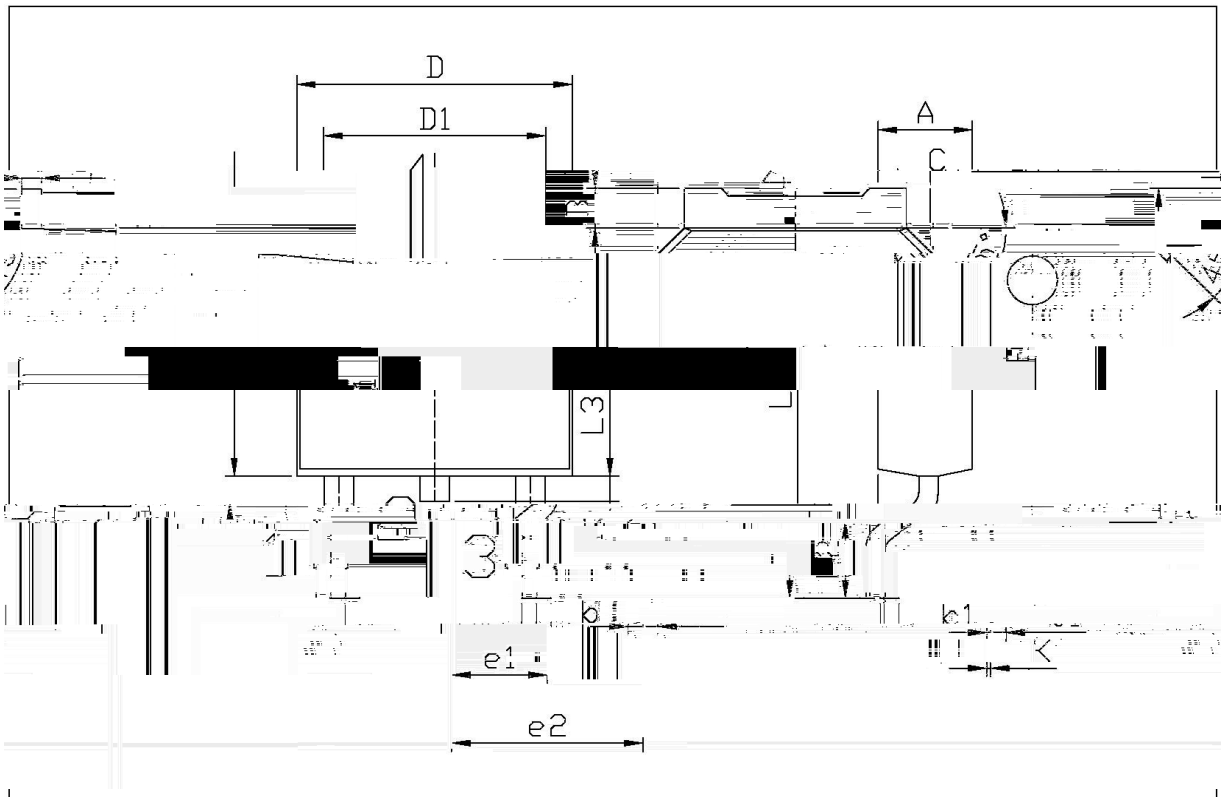


Figure 10: Normalized Maximum Transient Thermal Impedance

/ Package Dimensions

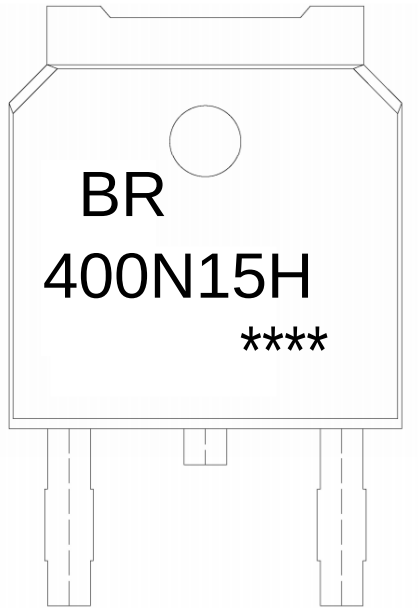


单位：mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
6.25	A	2.20	2.40	E	5.95
0.95	1.25	e1	2.24	2.34	B
0.70	0.90	e2	4.43	4.73	b
0.45	0.55	L1	9.85	10.35	b1
C	0.45	0.55	L2	1.70	2.00
60	0.90	D	6.45	6.75	L3
.00	0.10	D1	5.10	5.50	K

TO-252

/ Marking Instructions



BR

400N15H

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Note:

BR:	Company Code
400N15H:	Product Type
****:	Lot No. Code, code change with Lot No

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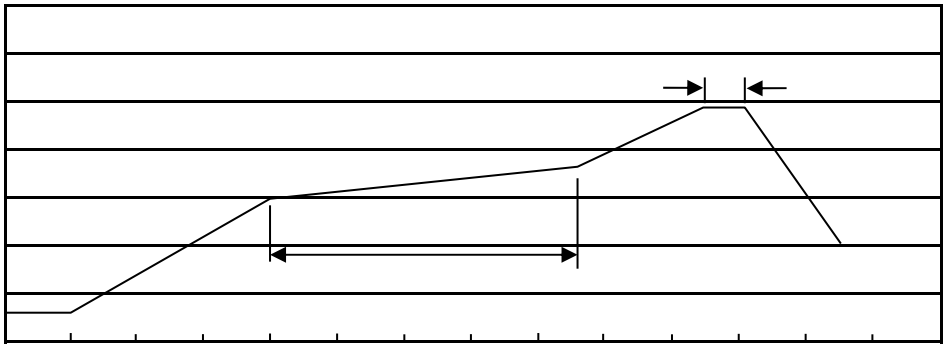

Note:

1	150	180	60 90sec;	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.

/ 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 mm³)
	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 mm³)
	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