N ვ TO-252 ṂṂ ȶ ʆ ῷ Ẕ ᒣ

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

V_{DS}(V) = 150V I_D=20.5A

$R_{DS(ON)}$@10V ≤ 75mΩ(Typ. 65mΩ)

$R_{DS(ON)}$@6V ≤ 120mΩ(Typ. 79mΩ)

ṇ ғ ᵝ HF Product.

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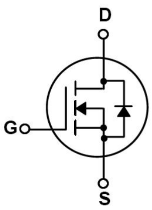
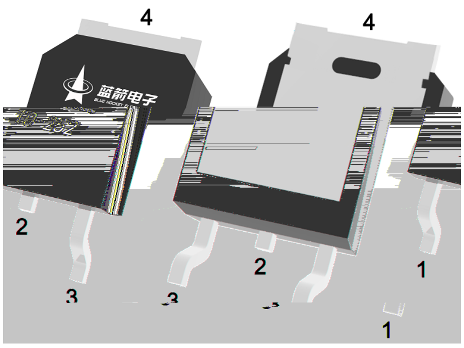
LED backlighting, Ideal for high-frequency switching and synchronous rectification.





PIN1 χ G PIN 2 χ D PIN 3 χ S PIN 4 χ D

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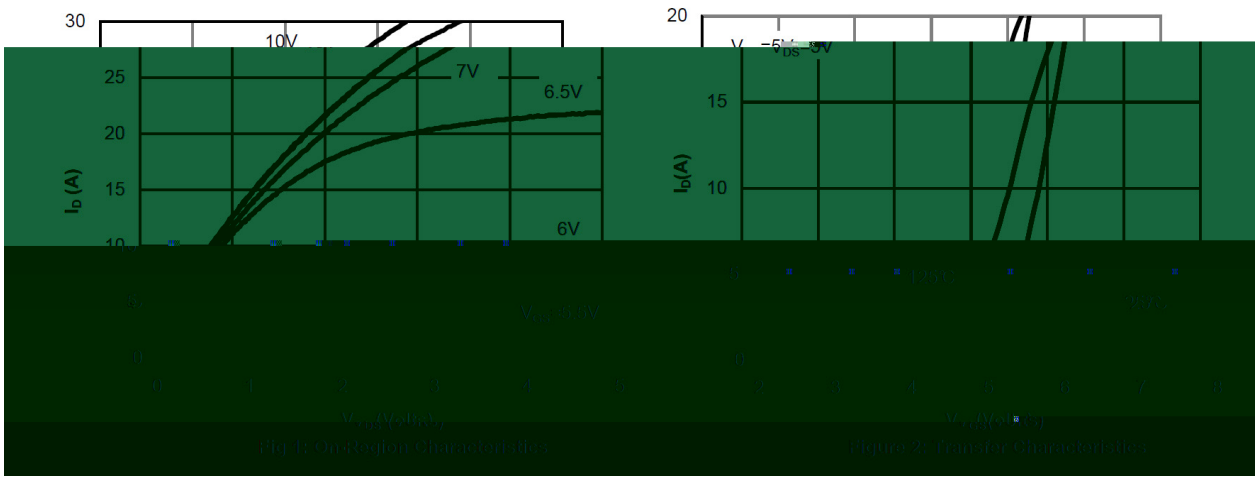
See Marking Instructions.

v ῞Ω Parameter	ɬ ᴺ Symbol	῞Ωϴ Rating	ᴅ ɧ Unit
Drain-Source Voltage	V_{DSS}	150	V
Drain Current	I_D(Tc=25)	20.5	A
Peak Drain Current	I_{DM}	68	A
Gate-Source Voltage	V_{GSS}	±20	V
Single Pulsed Avalanche Energy	E_{AS}	67	mJ
Avalanche Current	I_{AS}	13.4	A
Total Power Dissipation	P_D(Tc=25)	70	W
Junction and Storage Temperature Range	T_J,T_{STG}	-55 to 150	℃
Thermal Resistance-Junction to Ambient	$R_{\theta JA}$	75	/W
Thermal Resistance-Junction to Case	$R_{\theta JC}$	1.8	

v ῞Ω Parameter	ɬ ᴺ Symbol	╜ ⁞ᶴ Ʈ Test Conditions	ῳ ῃ ϴ Min	Ɛ ʓ ϴ Typ	ῳ ᶻ ϴ Max	ᴅ ɧ Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250μA	150	167		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=150V V_{GS}=0V			1	μA
Gate-Body leakage current	I_{GSS}	V_{GS}=±20V V_{DS}=0V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=250μA	2	3	4	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V I_D=15A		65	75	mΩ
		V_{GS}=6V I_D=10A		79	120	
Diode Forward Voltage	V_{SD}	I_S=1A V_{GS}=0V			1.2	V
Input Capacitance	C_{iss}	V_{GS}=0V V_{DS}=25V, f=1.0MHz		390		pF
Output Capacitance	C_{oss}			235		
Reverse Transfer Capacitance	C_{rss}			12		
Gate resistance	R_g	V_{GS}=0V V_{DS}=0V, f=1MHz		1.9		Ω
Total Gate Charge	$Q_{g(10V)}$	V_{GS}=10V V_{DS}=75V I_D=10A		5.2		nC
Total Gate Charge	$Q_{g(6V)}$			2.9		
Gate Source Charge	Q_{gs}			1.1		
Gate Drain Charge	Q_{gd}			1.4		

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On DelayTime	$t_{D(on)}$	V_{DS}=75V I_D=10A V_{GS}=10V R_G=3Ω		5.7		ns
Turn-On Rise Time	t_r			2.9		
Turn-Off DelayTime	$t_{D(off)}$			6.9		
Turn-Off Fall Time	t_f			3.3		



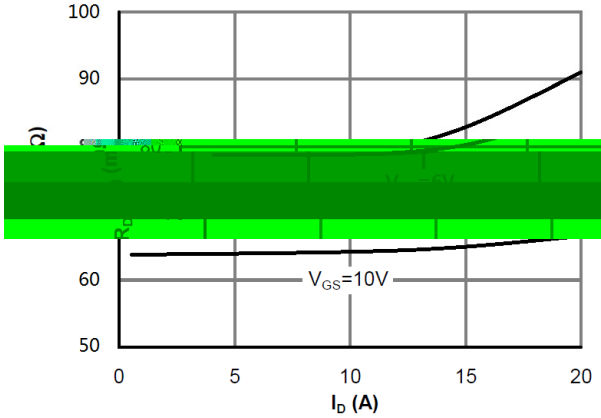


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

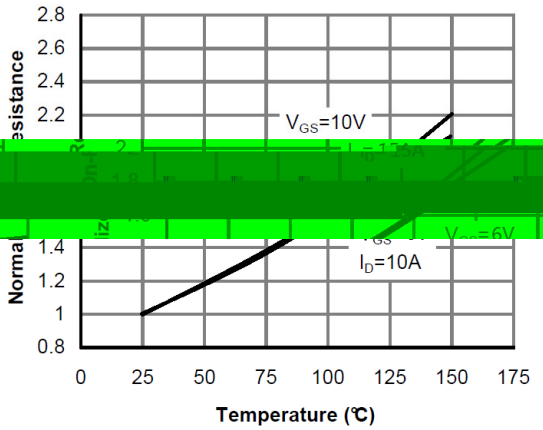


Figure 4: On-Resistance vs. Junction Temperature

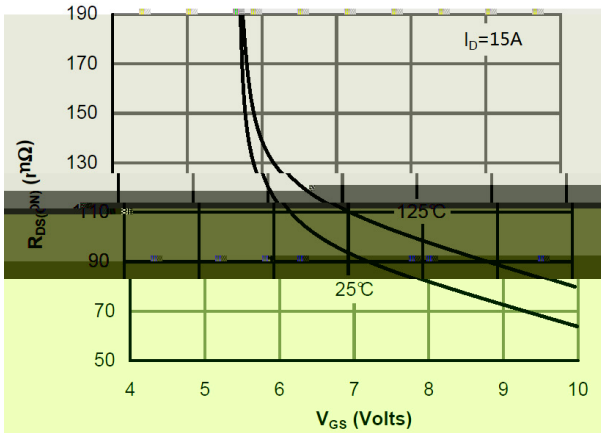
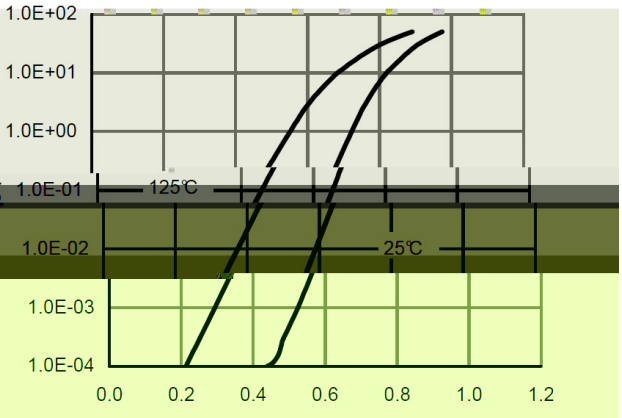


Figure 5: On-Resistance vs. Gate-Source Voltage



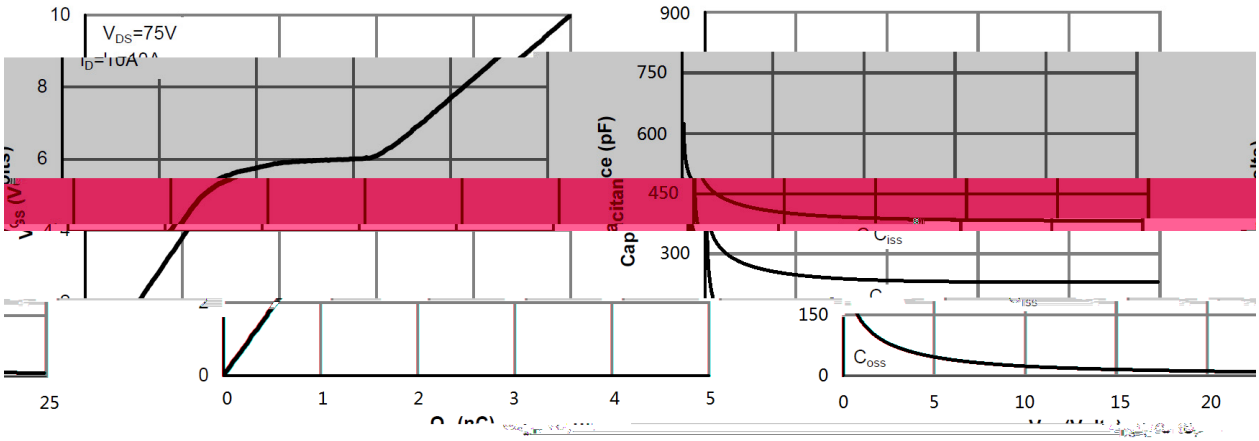


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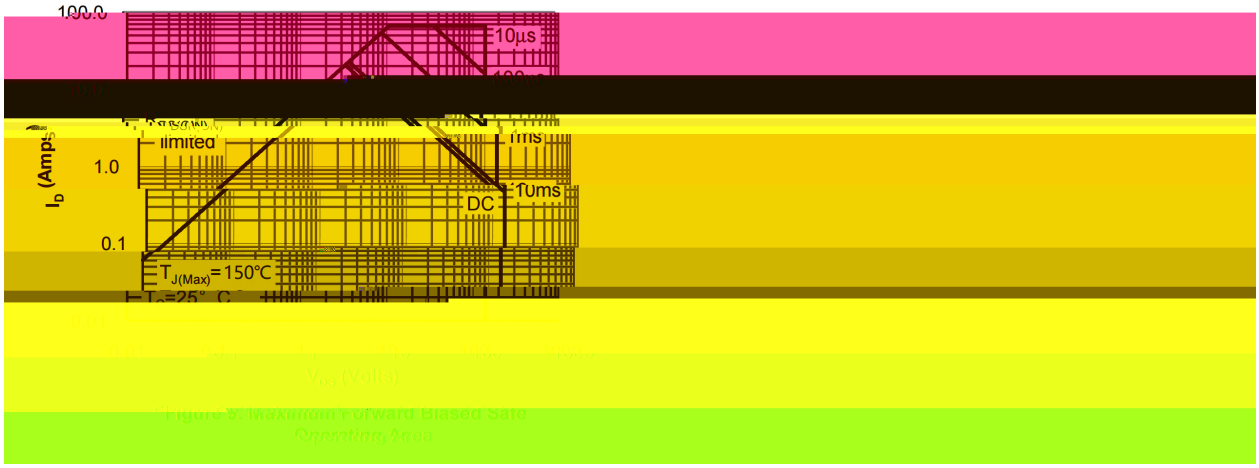
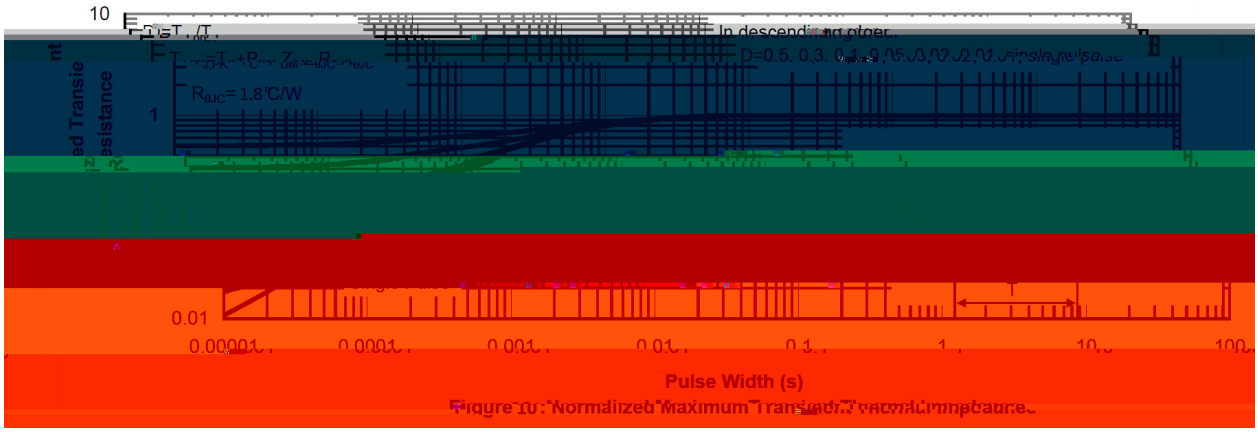
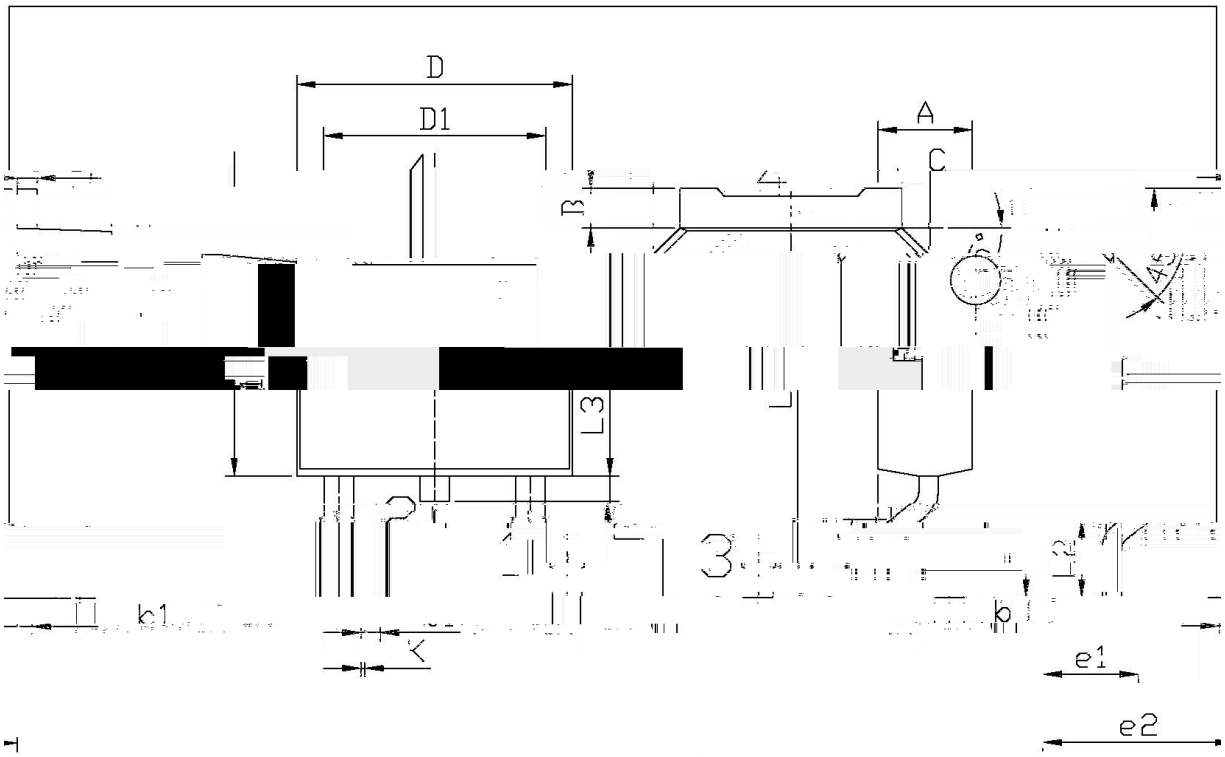
Figure 7: Gate-Charge Characteristics

Figure 8: Capacitance Charact



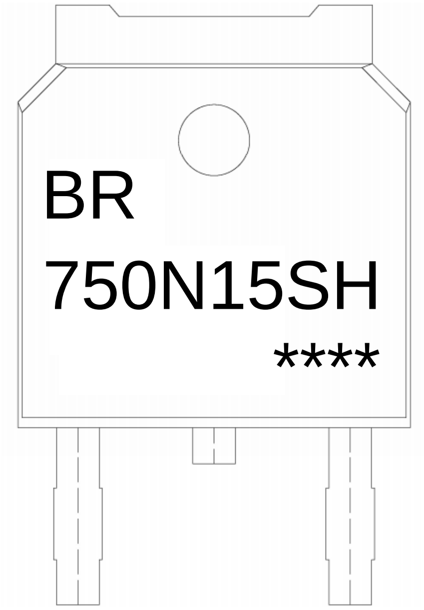




单位：mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
E	5.95	6.25	A	2.20	2.40
e1	2.24	2.34	B	0.95	1.25
e2	4.48	4.78	b	0.70	0.90
L1	9.85	10.35	b1	0.45	0.55
C	0.45	0.55	L2	1.70	2.00
h	0.00	0.10	D	6.45	6.75
L3	0.60	0.90	H	9.80	10.50
K	0.00	0.10			

TO-252



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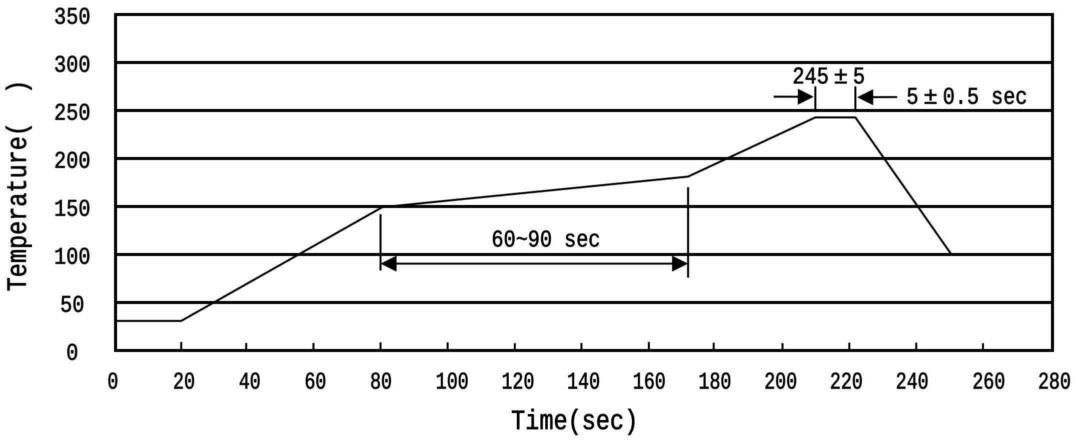
Note:

BR: Company Code

750N15SH: Product Type Code

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

Temperature Profile for IR Reflow Soldering(Pb-Free)



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1 ǐ ♬ □ ŷ 150Ḱ180ɬ ı ̀H ڗ 60Ḱ90sec;

2 Ś Ө □ ŷ 245°5ɬ ı ̀H ڗ ̀Y ʎ ㅉ 5°0.5sec;

3 ǐ ˙ ˥ ˛ ɔ ๖ ŷ ㅉ 2Ḱ10ɬ/sec.

Note:

1.Preheating:150~180ɬ, Time:60~90sec.

2.Peak Temp.:245°5ɬ, Duration:5°0.5sec.

3. Cooling Speed: 2~10ɬ/sec.

□ ŷ χ 260°5ɬ ̀H ڗ χ 10°1 sec. Temp.:260±5℃ Time:10±1 sec

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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

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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