

/ Descriptions

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

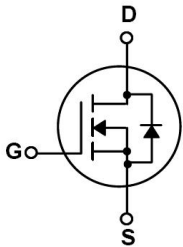
/ Features

600V MOSFET,
600V Enhanced Power MOSFET, Low gate charge, low crss, fast switching.

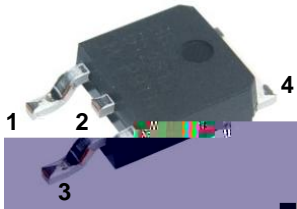
/ Applications

These devices are well suited for power switch circuit of adaptor and charger.

/ Equivalent Circuit



/ Pinning



PIN1 G PIN 2 D PIN 3 S PIN 4 D

/ h_{FE} Classifications & Marking

See Marking Instructions.

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	600	V
Drain Current	I_D	7	A
Drain Current - Pulsed	I_{DM}	28	A
Gate-Source Voltage	V_{GSS}	±30	V
Single Pulsed Avalanche Energy	E_{AS}	500	mJ
Repetitive Avalanche Energy	E_{AR}	54	mJ
Single Pulse Avalanche Current	I_{AS}	3.3	A
Power Dissipation	$P_D(T_C=25^\circ\text{C})$	95	W
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	°C
Thermal Resistance, Junction-to-Case	R_{JC}	1.32	°C/W
Thermal Resistance, Junction-to-Ambient	R_{JA}	62	°C/W

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\text{ A}$	600			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=600V$ $V_{GS}=0V$			1	A
		$V_{DS}=600V$ $T_j=150^\circ\text{C}$			100	
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 30V$ $V_{DS}=0V$			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\text{ A}$	2		4	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=3.5A$		1.0	1.3	
Total Gate Charge Drain-Source Diode Forward	q_{FS}	$V_{DS}=15V$ $I_D=3.5A$		6.5		S

/ Electrical Characteristic Curve

Figure1. Output Characteristics (T_J=25°C)

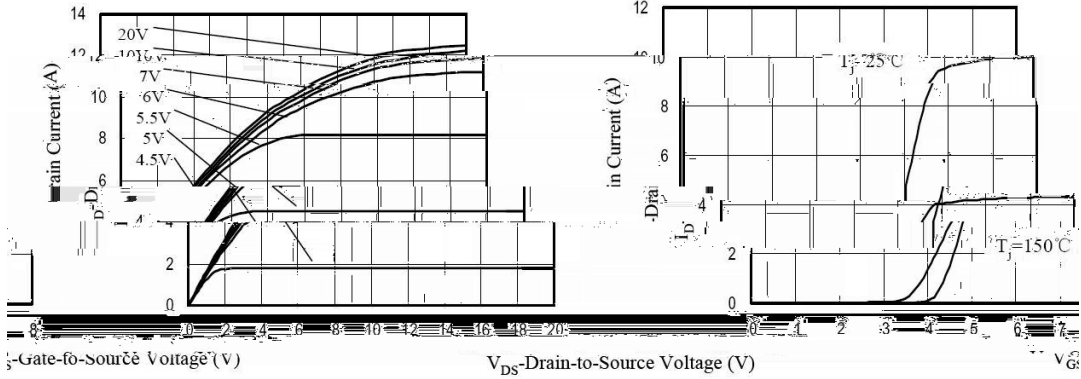


Figure5. Transfer Characteristics

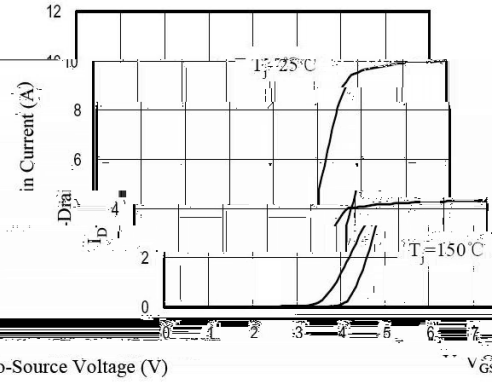


Figure4. On-Resistance vs Temperature

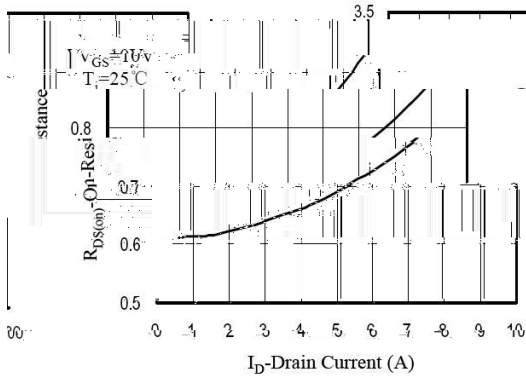


Figure6. Threshold Voltage vs Temperature

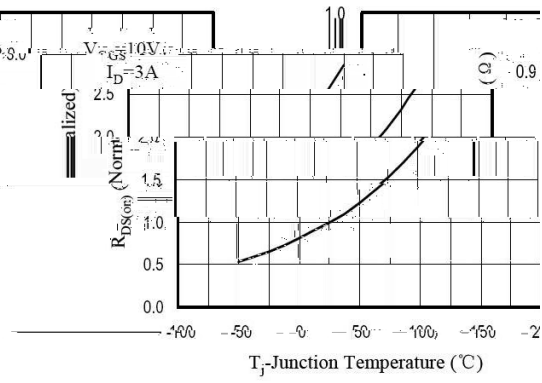


Figure9. Body Diode Forward Voltage

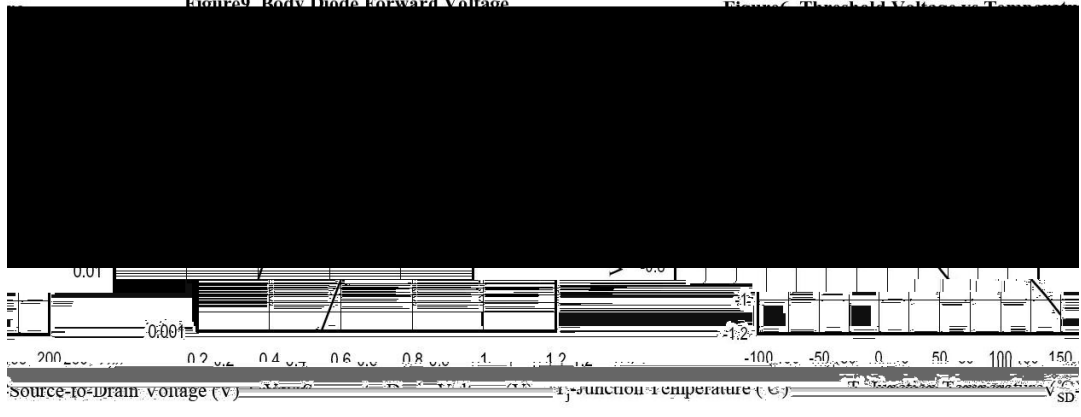


Figure7. Capacitance

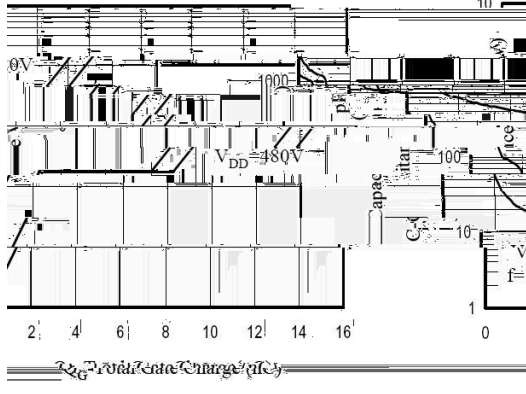
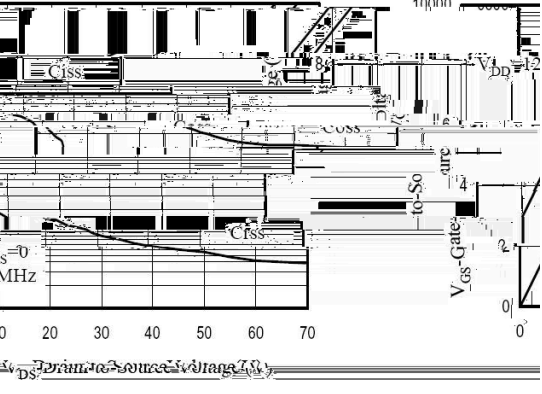
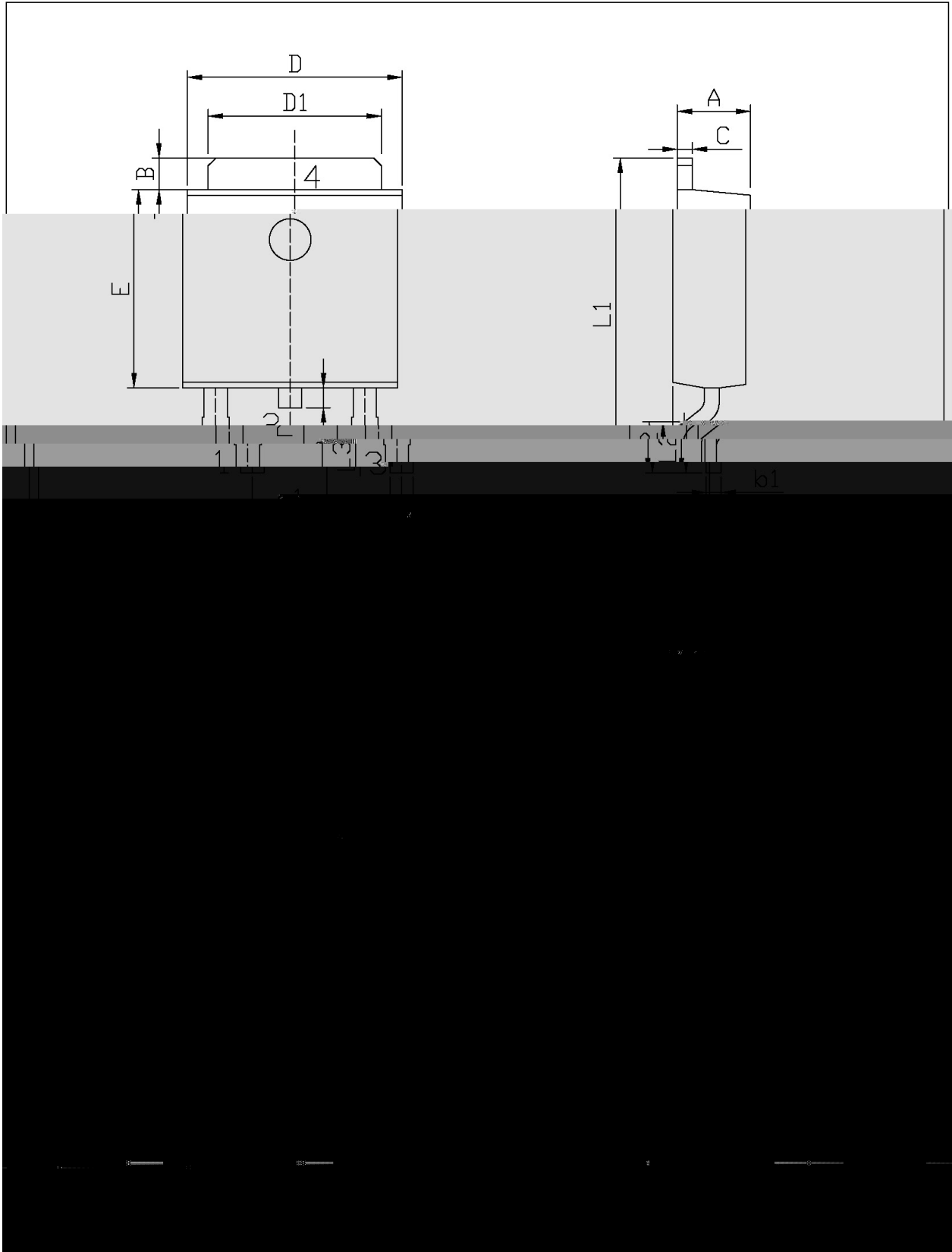


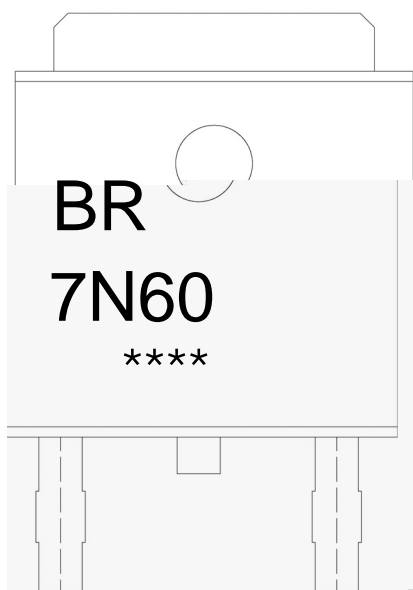
Figure8. Gate Charge



/ Package Dimensions



/ Marking Instructions



BR

7N60

Note:

BR: Company Code

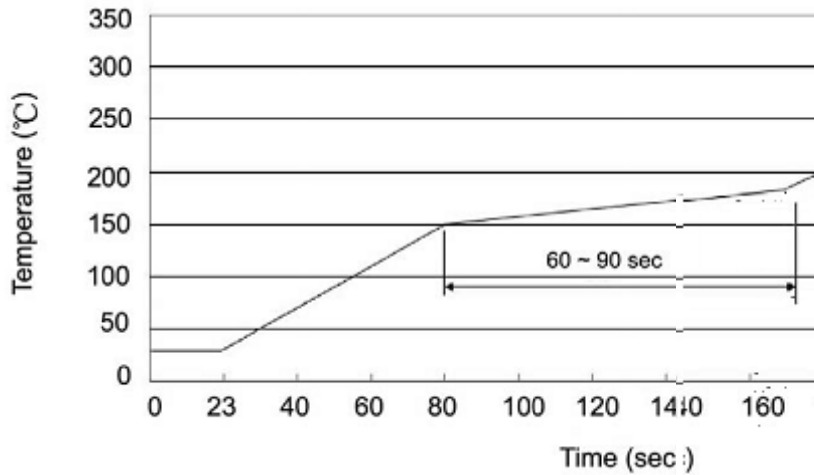
7N60: Product Type.

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

BRD7N60

Rev.E Feb.-2017

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Note:

- | | | | | | |
|---|-------|-----|-----------|--------|------------------------|
| 1 | 25 | 150 | 60 | 90sec; | 1.Preheating:25~150 , |
| 2 | 245±5 | | 5±0.5sec; | | 2.Peak Temp.:245±5 , |
| 3 | | 2 | 10 | /sec. | 3. Cooling Speed: 2~10 |

/ Resistance to Soldering Heat Test Conditions

260±5 10±1 sec. Temp.:260±5°C T

/ Packaging SPEC.

/ REEL

Package Type 封装形式	Units 包装数量				
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱
TO-252	2,500	2	5,000	5	25,000

/ TUBE

Package Type 封装形式	Units 包装数量				
	Units/Tube 只/套管	Tubes/Inner Box 套管/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱
TO-251/252	75	48	3,600	5	18,000

/ Notices