

N TO-252

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

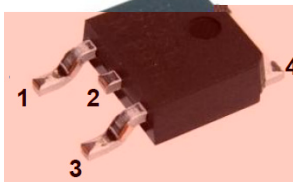
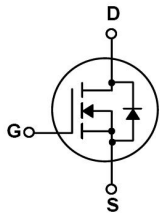
$R_{DS(on)}$

C_{rss}

Low $R_{DS(on)}$, low gate charge, low C_{rss} , fast switching. Halogen-free Product.

DC/DC

Suited for low voltage applications such as automotive, DC/DC Converters, and high efficiency switching for power management in portable and battery operated products.



PIN1 G

PIN 2 D

PIN 3 S

PIN 4 D

See Marking Instructions.

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	20	V
Drain Current	$I_D(T_c=25^\circ\text{C})$	60	A
	$I_D(T_c=100^\circ\text{C})$	50	A
Drain Current - Pulsed	I_{DM}	210	A
Gate-Source Voltage	V_{GS}	± 12	V
Avalanche Current	I_{AS}	18.3	A
Avalanche energy $L=0.5\text{mH}$	E_{AS}	268	mJ
Power Dissipation	$P_D(T_c=25^\circ\text{C})$	100	W
	$P_D(T_c=100^\circ\text{C})$	50	W
Junction and Storage Temperature Range	$T_j \quad T_{stg}$	-55 150	
Maximum Junction-to-Ambient Steady-State	$R_{\theta JA}$	62	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		2380		pF
Output Capacitance	C_{oss}			65		
Reverse Transfer Capacitance	C_{rss}			165		
Gate resistance	R_g	$V_{GS}=0V$ $V_{DS}=0V$ $f=1MHz$		1.28		Ω
Total Gate Charge	$Q_g(4.5V)$	$V_{GS}=10V$ $V_{DS}=10V$ $I_D=20A$	28	36	43	nC
Gate Source Charge	Q_{gs}			9		
Gate Drain Charge	Q_{gd}			12		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=10V$ $R_L=0.5\Omega$ $R_{GEN}=3\Omega$		7		ns
Turn-On Rise Time	t_r			8		
Turn-Off Delay Time	$t_{d(off)}$			70		
Turn-Off Fall Time	t_f			18		
Body Diode Reverse Recovery Time	t_{rr}	$I_F=20A$ $dI/dt=500A/ms$	13	17	20	ns
Body Diode Reverse Recovery Charge	Q_{rr}	$I_F=20A$ $dI/dt=500A/ms$	29	36	43	nC

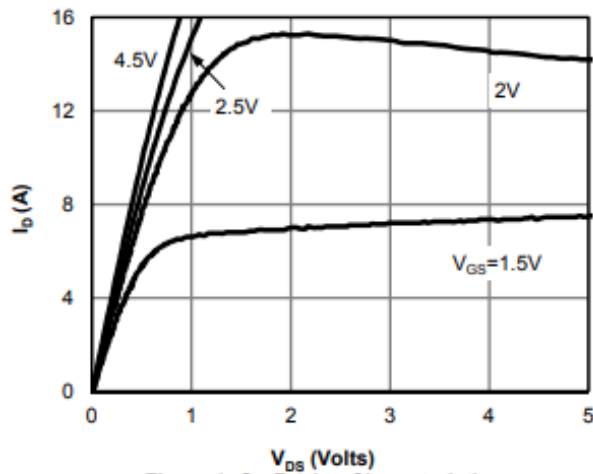


Figure 1: On-Region Characteristics

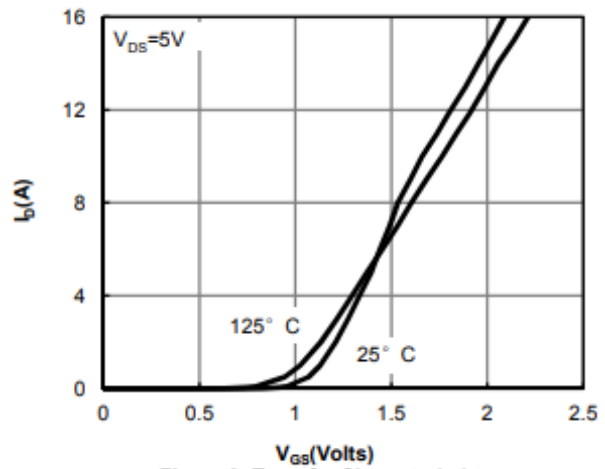


Figure 2: Transfer Characteristics

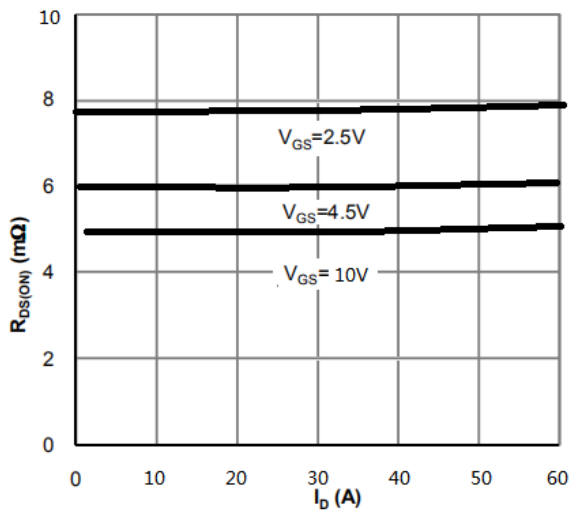


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

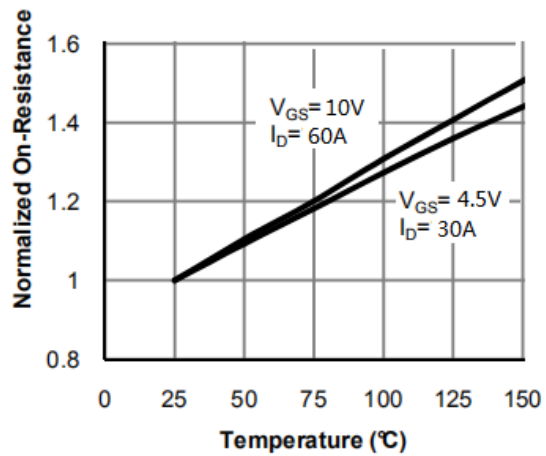


Figure 4: On-Resistance vs. Junction Temperature

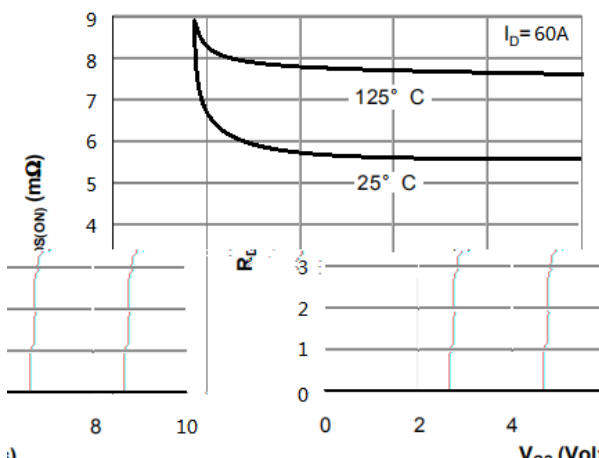


Figure 5: On-Resistance vs. Gate-Source Voltage

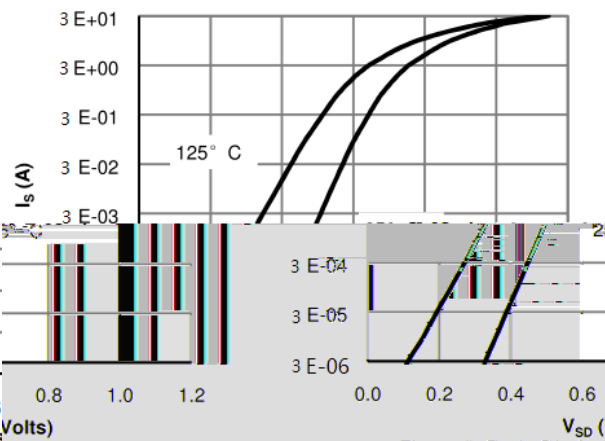
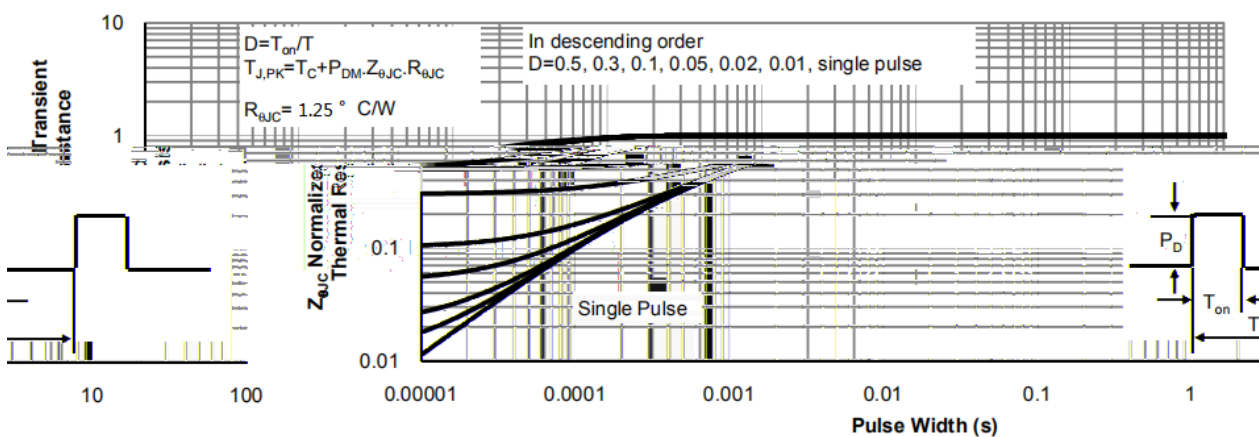
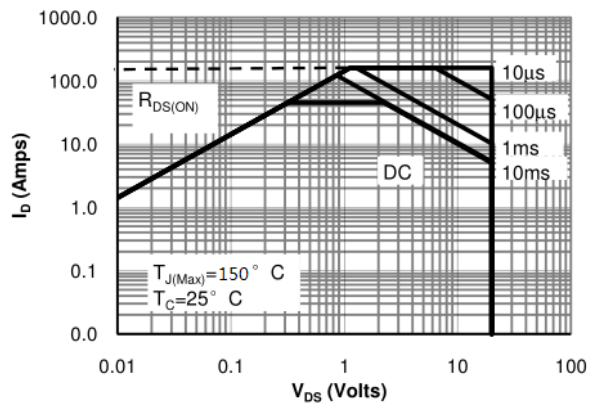
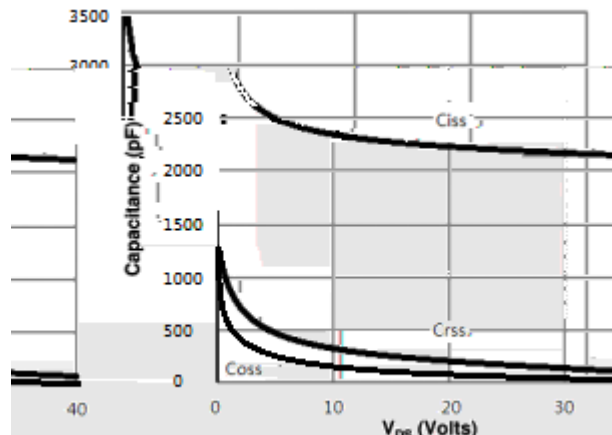
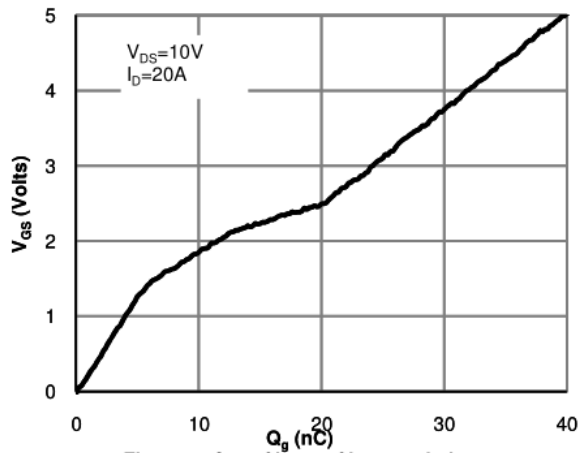
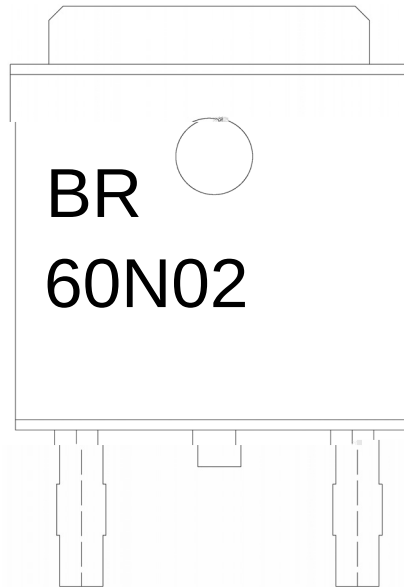


Figure 6: Body-Diode Characteristics





BR

60N02

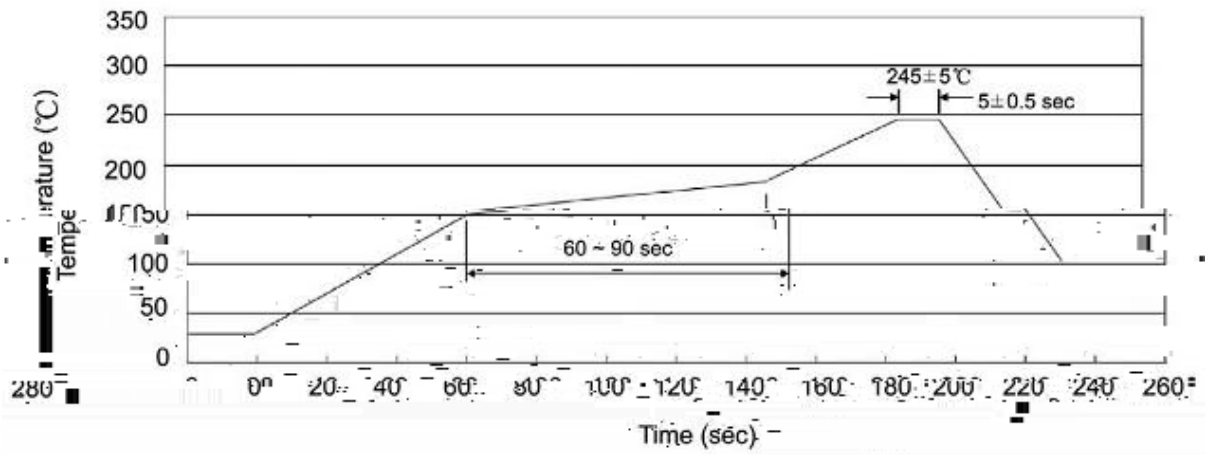
Note:

BR: Company Code

60N02: 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 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	只 卷盘	卷盘 盒	只 盒	盒 箱	只 箱		盒	箱

/ TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	只 套管	套管 盒	只 盒	盒 箱	只 箱	套管	盒	箱