

/ Descriptions

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

/ Features

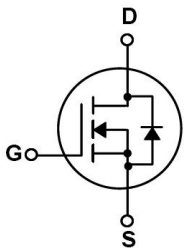
$R_{DS(on)}$ C_{rss}
Low $R_{DS(on)}$, low gate charge, low C_{rss} , fast switching.

/ Applications

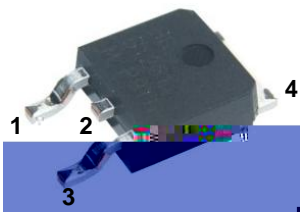
DC/DC

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

/ Equivalent Circuit



/ Pinning



PIN1 G PIN 2 D PIN 3 S PIN 4 D

/ h_{FE} Classifications & Marking

See Marking Instructions.

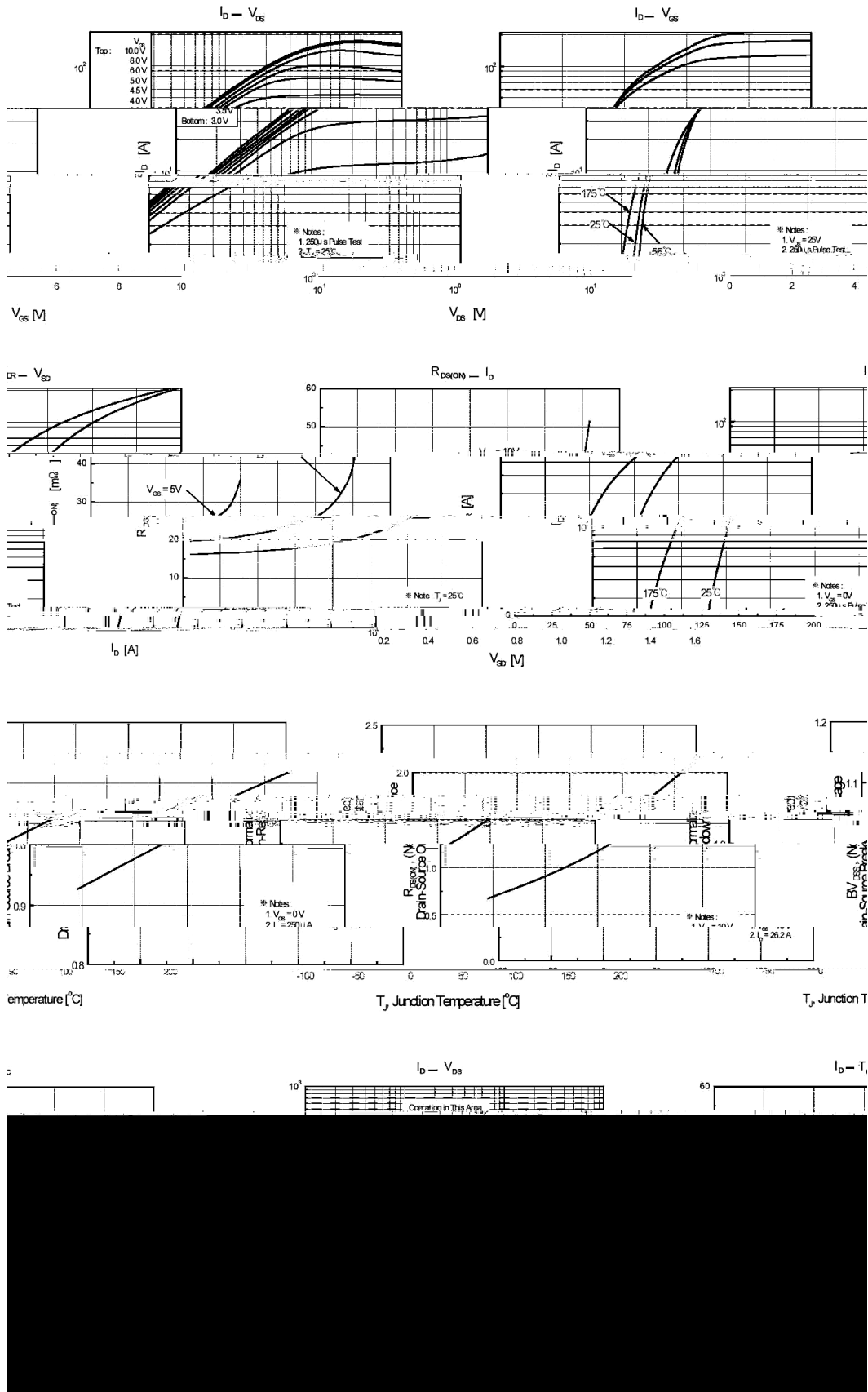
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	60	V
Drain Current	$I_D(T_C=25)$	50	A
Drain Current	$I_D(T_C=100)$	35.4	A
Drain Current - Pulsed	I_{DM}	200	A
Gate-Source Voltage	V_{GS}	± 20	V
Single Pulsed Avalanche Energy	E_{AS}	490	mJ
Repetitive Avalanche Energy	E_{AR}	12	mJ
Power Dissipation	$P_D(T_C=25)$	85	W
Junction Temperature Range	T_j	150	$^{\circ}C$
Storage Temperature Range	T_{stg}	-55 150	$^{\circ}C$

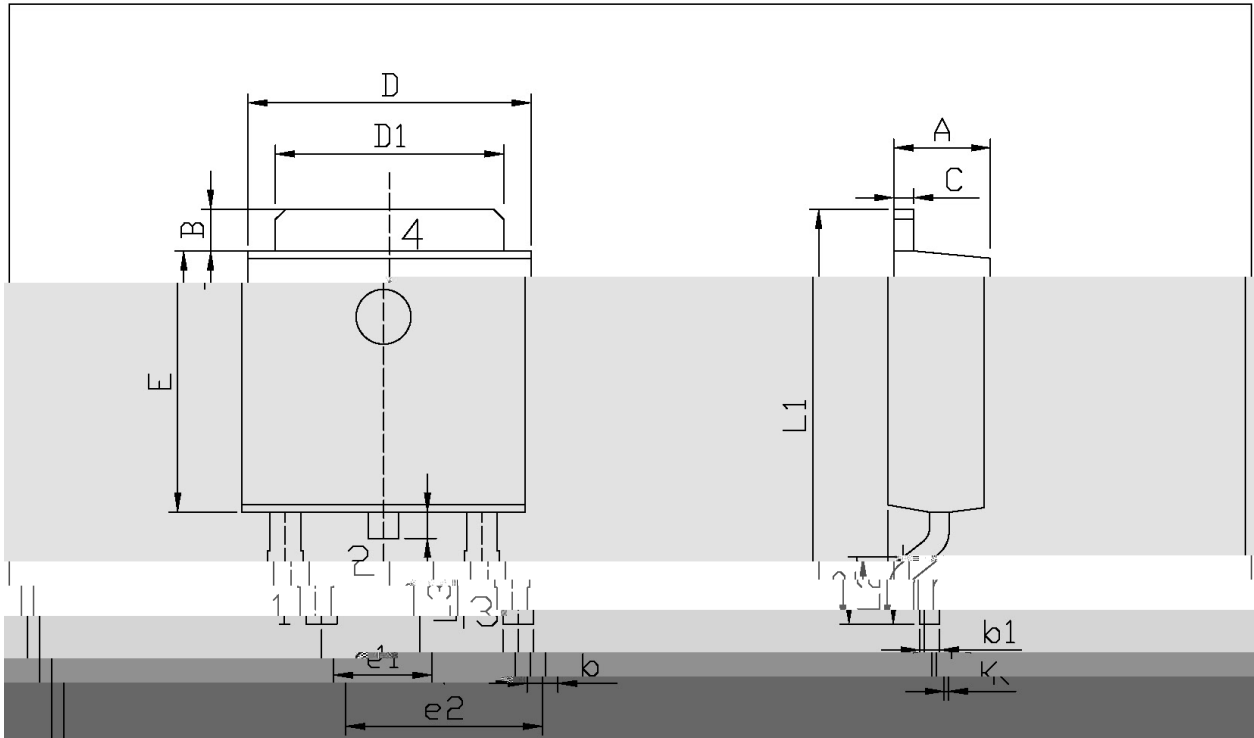
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	60			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60V$ $V_{GS}=0V$			1.0	μA
		$V_{DS}=48V$ $T_C=150$			10	
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	2		4	V
Total Gate Charge	Q_g	$V_{DS}=48V$ $I_D=50A$ $V_{GS}=10V$		32	42	nC
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=25A$		0.018	0.022	
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=50A$			1.5	V
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		1050	1365	pF
Output Capacitance	C_{oss}			460	600	
Reverse Transfer Capacitance	C_{rss}			70	90	
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=30V$ $I_D=25A$ $R_G=25$		20	50	ns
Turn-On Rise Time	t_r			100	210	
Turn-Off Delay Time	$t_{d(off)}$			80	170	
Turn-Off Fall Time	t_f			85	180	

/ Electrical Characteristic Curve



/ Package Dimensions

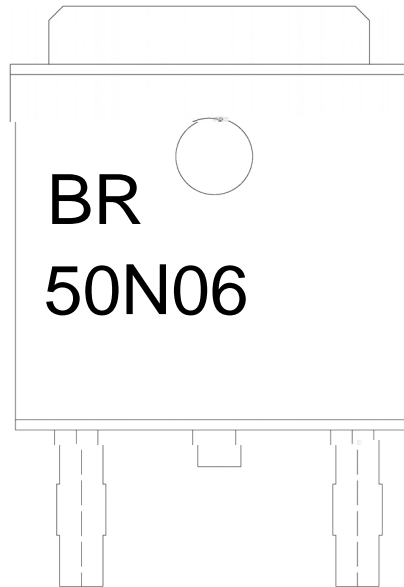


单位: mm

Dimensions In Millimeters			Dimensions In Millimeters		
Symbol	Min	Max	Symbol	Min	Max
A	2.20	2.40	E	5.95	6.25
b	0.35	0.25	e1	2.24	2.34
b1	0.50	0.70	e2	4.43	4.73
D	6.45	6.75	L1	9.45	9.55
D1	5.10	5.50	L2	1.25	1.75
			L3	0.60	0.70
			K	0.00	0.10

TO-252

/ Marking Instructions



BR

50N06

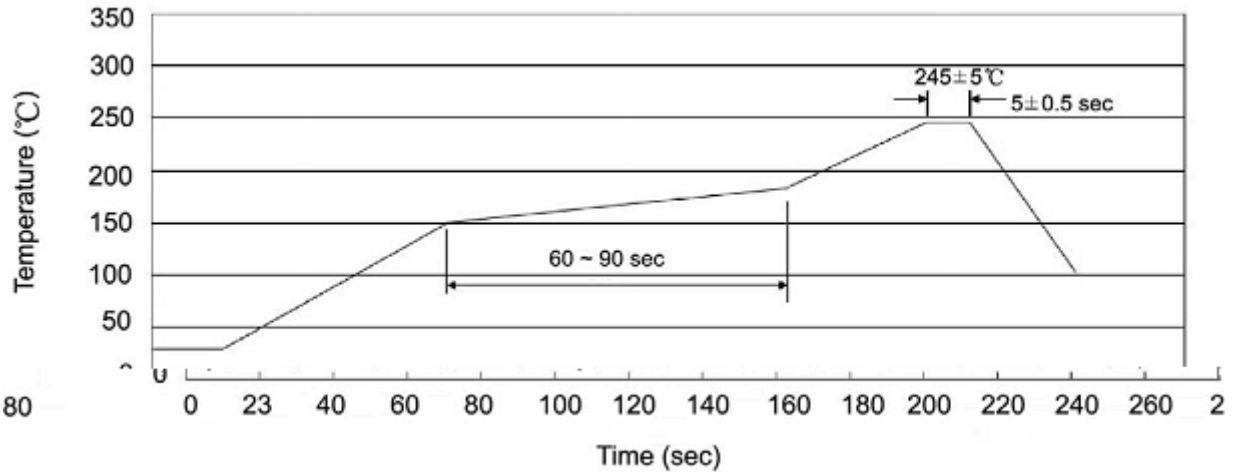
Note:

BR: Company Code

50N06: Product Type Code.

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

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Note:

- | | | | | | |
|---|-------|-----|-----------|--------|---|
| 1 | 25 | 150 | 60 | 90sec; | 1.Preheating:25~150 , 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°C Time:10±1 sec

/ Packaging SPEC.

/ 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

/ Notices