

/ Revised record

/ Descriptions

TO-252

A

N-Channel Enhancement Mode Field Effect Transistor in a TO-252 Plastic Package.

/ Features

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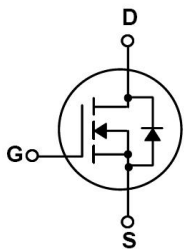
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/ Applications

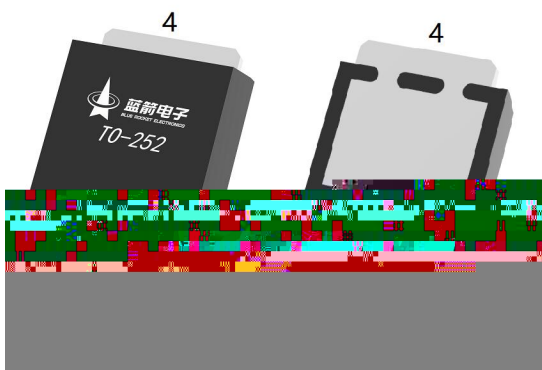
110

DC/DC Converters in Computing, Suitable for general purpose.

/ Equivalent Circuit



/ Pinning



PIN1 G

PIN 2 D

PIN 3 S

PIN 4 D

/ Marking

See Marking Instructions.



Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	30	V
Drain Current		$I_D(T_C=25^{\circ}\text{C})$	67	A
Drain Current - Pulsed		I_{DM}	140	A
Gate-Source Voltage		V_{GSS}	± 20	V
Single Pulsed Avalanche Energy(L=0.5mH)		E_{AS}	185	mJ
Avalanche Current		I_{AS}	21.5	A
Power Dissipation		$P_D(T_C=25^{\circ}\text{C})$	45	W
Operating and Storage Temperature Range		T_J, T_{stg}	-55 to 150	$^{\circ}\text{C}$
Junction-to-Ambient	$t \leq 10$	$R_{\theta JA}$	20	$^{\circ}\text{C/W}$
Junction-to-Ambient	Steady-State		50	
Junction-to-Case	Steady-State	$R_{\theta JC}$	2.8	

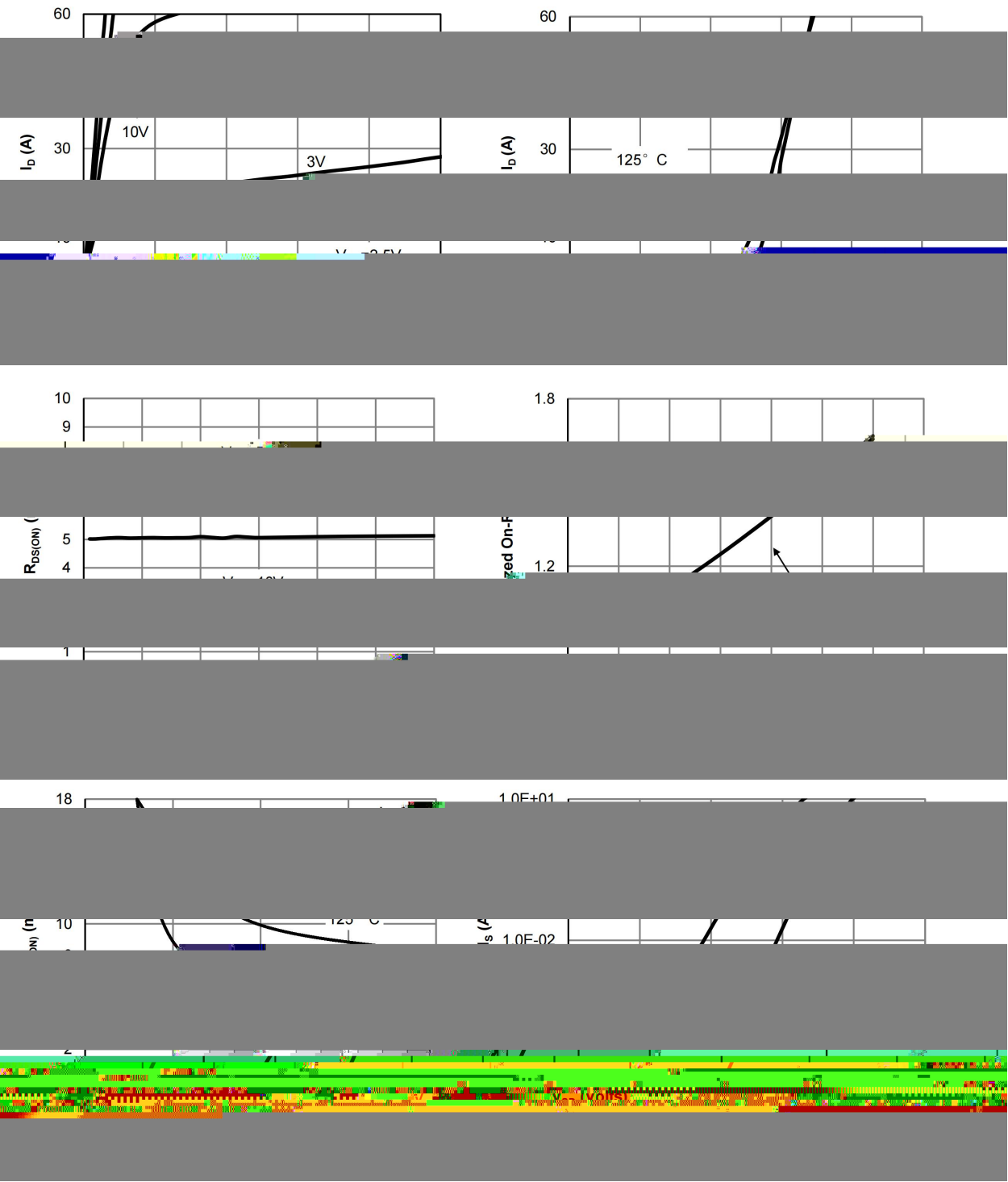
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	30	32		V



/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10V$ $V_{DS}=15V$ $I_D=20A$		38		nC
Total Gate Charge	$Q_{g(4.5V)}$			18		
Gate Source Charge	Q_{gs}			10		
Gate Drain Charge	Q_{gd}			4		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=10V$ $V_{DS}=15V$ $R_L=0.75\Omega$ $R_{GEN}=3\Omega$		10		ns
Turn-On Rise Time	t_r			15		
Turn-Off Delay Time	$t_{d(off)}$			36		
Turn-Off Fall Time	t_f			9		

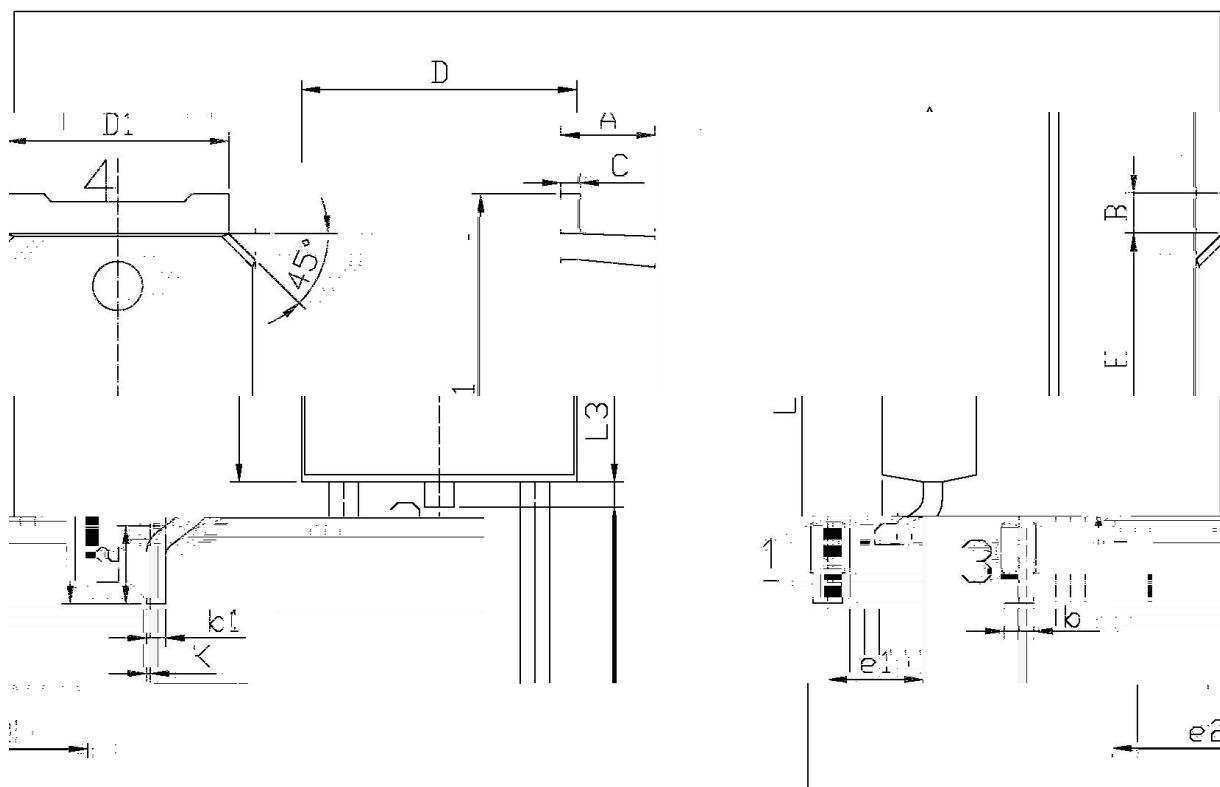
/ Electrical Characteristic Curve



/ Electrical Characteristic Curve



/ Package Dimensions

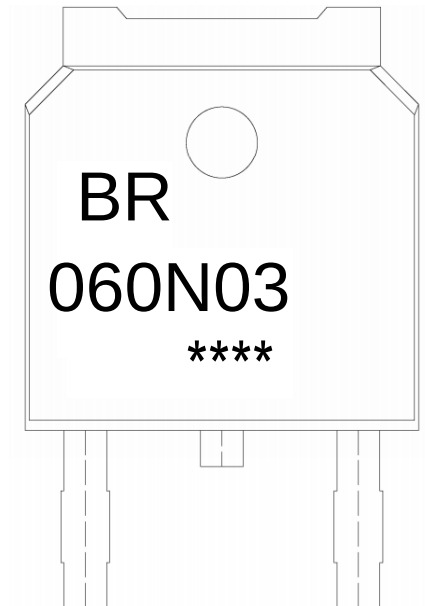


单位: mm

Dimensions in Millimeters	Dimensions in Millimeters	Dimensions in Millimeters	Dimensions in Millimeters	Dimensions in Millimeters	Dimensions in Millimeters
M ₁	0.30	0.25	M ₂	0.20	0.40
e ₁	2.24	2.34	B	0.95	1.25
b ₁	4.43	4.76	b	0.69	0.49
L ₁	9.85	10.35	b ₁	0.45	0.55
L ₂	0.55	1.70	L	0	0.45
L ₃	0.60	0.90	D	6.45	6.75
L ₄	0.60	0.30	D ₁	5.10	5.50

TN-252

/ Marking Instructions



BR

060N03

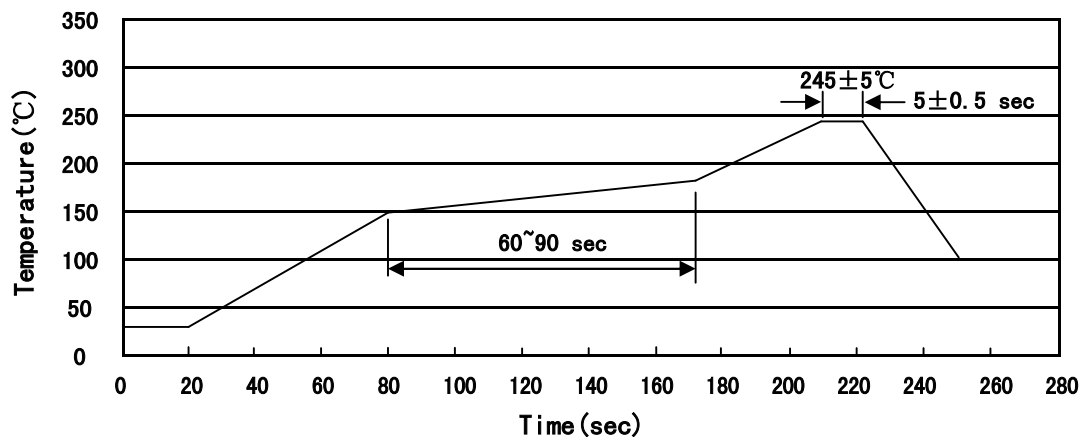
Note:

BR: Company Code

060N03: 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°C, Time:60~90sec. |
| 2 | 245±5 | | 5±0.5sec; | | 2.Peak Temp.:245±5°C, Duration:5±0.5sec. |
| 3 | | 2 | 10°C/sec. | | 3. Cooling Speed: 2~10°C/sec. |

/ Resistance to Soldering Heat Test Conditions

260±5°C 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)		
	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	Reel	Inner Box 盒	Outer Box 箱
TO-252	2,500	2	5,000	6	30,000	13" ×16	360×360×50	380×335×366

/ TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	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	Tube 套管	Inner Box 盒	Outer Box 箱
TO-251/252	75	48	3,600	5	18,000	526×20.5×5.25	555×164×50	575×290×180

/ Notices