

/ Descriptions

TO-220 N MOS N-CHANNEL MOSFET in a TO-220 Plastic Package.

/ Features

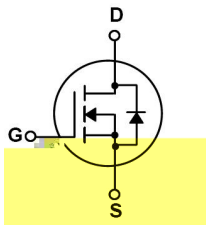
Low gate charge, low crss, fast switching.

/ Applications

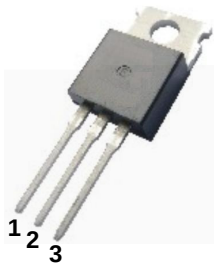
DC/DC

These devices are well suited for high efficiency switching DC/DC converters and switch mode power supplies.

/ Equivalent Circuit



/ Pinning



PIN1 G PIN 2 D PIN 3 S

/ h_{FE} Classifications & Marking

See Marking Instructions.

IRF640

Rev.G Jul.-2018



DATA SHEET

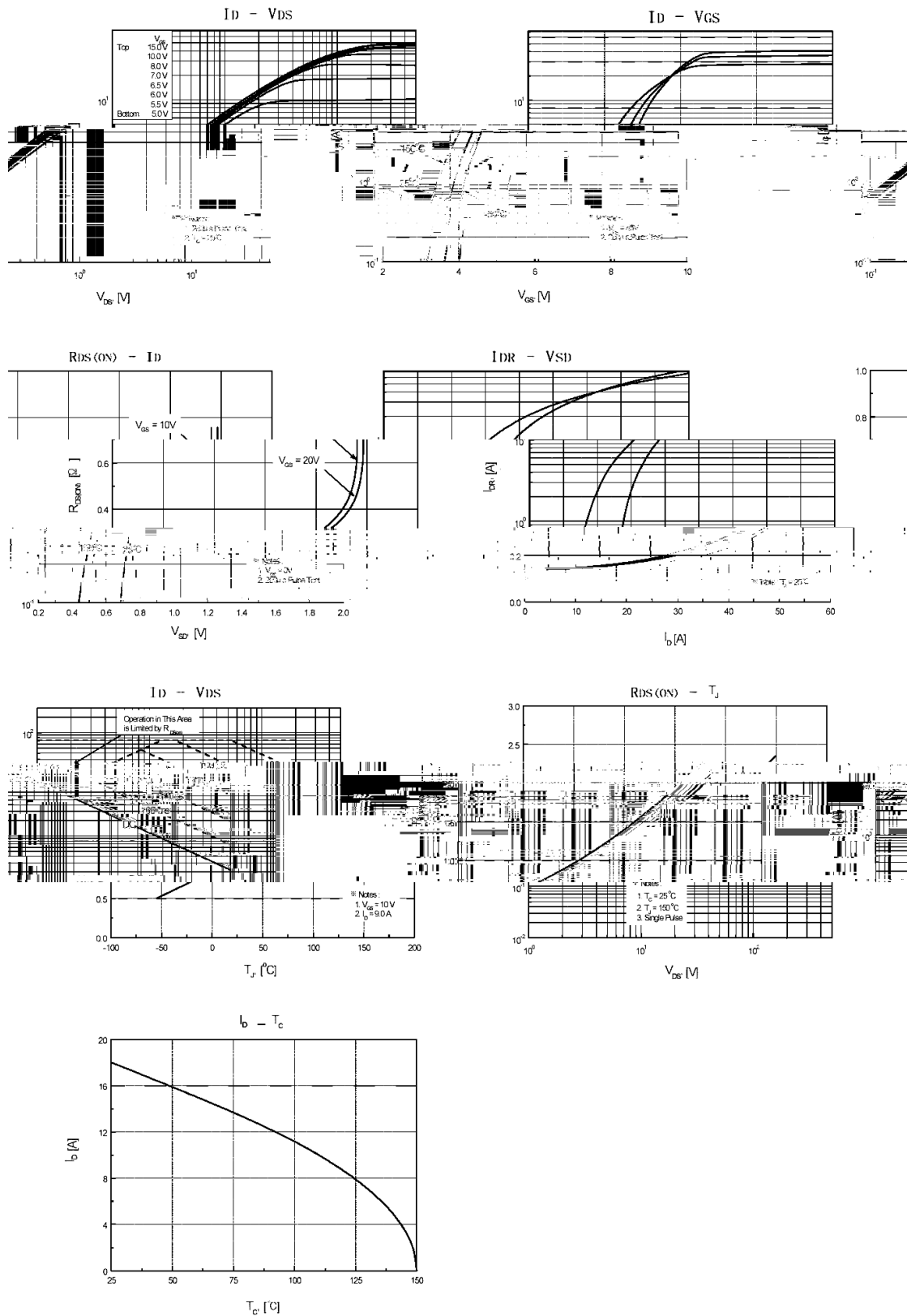
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	200	V
Drain Current	$I_D(T_c=25^\circ\text{C})$	18	A
	$I_D(T_c=100^\circ\text{C})$	11.4	A
Pulsed Drain Current	I_{DM}	72	A
Gate-Source Voltage	V_{GSS}	± 30	V
Single Pulsed Avalanche Energy	E_{AS}	250	mJ
Repetitive Avalanche Energy	E_{AR}	13.9	mJ
Avalanche Current	I_{AR}	18	A
Total Power Dissipation	$P_D(T_c=25^\circ\text{C})$	139	W
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Zero Gate Voltage Drain Current	I_{DSS}	$V_{GS}=0V$ $I_D=250\text{ A}$	200			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=200V$ $V_{GS}=0V$			10	A
		$V_{DS}=160V$ $T_C=125^\circ\text{C}$			100	A
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 30V$ $V_{DS}=0V$			± 0.1	A
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\text{ A}$	2.0		4.0	V
Forward Transconductance	g_{FS}	$V_{DS}=40V$ $I_D=900\text{ mA}$	55.7(13)	44(3)	1139	S

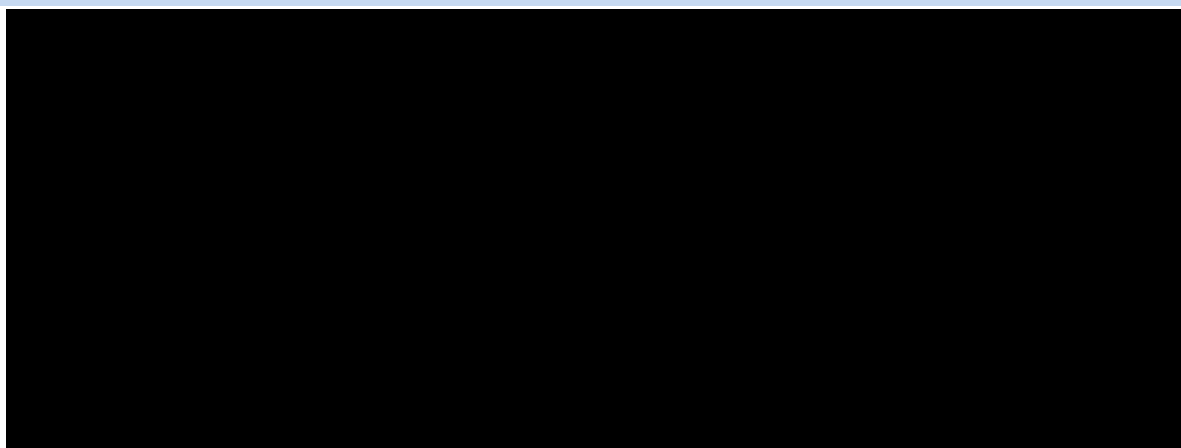
Static Drain-Source

4(l)289.94 .4Drain T J7.5 4185-.00n0.5 266.34 314.3004 Tm0 TcTm-c.0029 0 0 7.02 273.36 293.8403 Tm-.0047V=40

/ Electrical Characteristic Curve

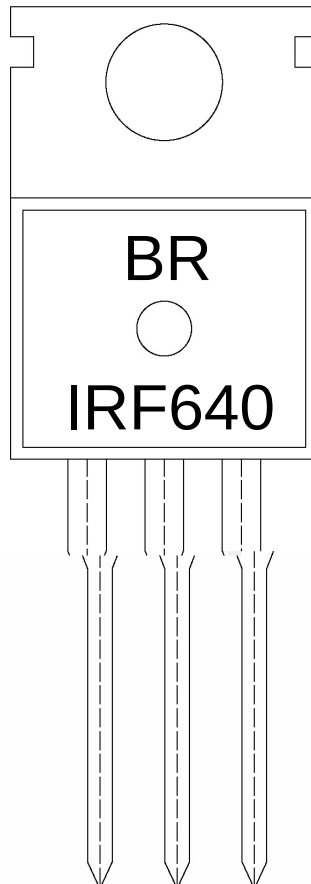


Package Dimensions



Dimensions in Millimeters			Dimensions in Millimeters		
Max	Symbol	Min	Max	Symbol	Min
1.4	Δ	0.98	10.2	C7	1.2
2.7		2.56	13.6	B5	1.3
9.0		11.1	15.7	B10	1.0
2.2		1.6	2.6	C1	0.7
0.9		0.6	10.6	a1	0.7
0.6		0.4	1.7	max	1.02
1.02		1.3	2.34		2.14
			0.2		1.25
					1.45

/ Marking Instructions



BR

IRF640

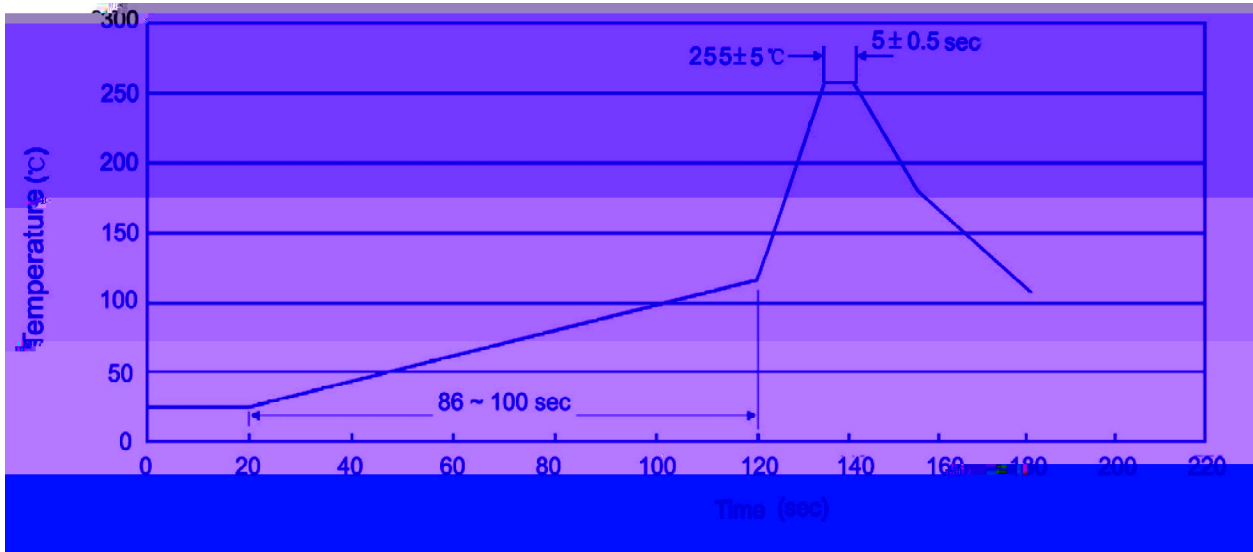
Note:

BR: Company Code

IRF640: Product Type.

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

() / Temperature Profile for Dip Soldering(Pb-Free)



Note:

- | | | | | | |
|---|-------|-----|-----------|---|--------------------------------------|
| 1 | 25 | 150 | 60 | 90sec; | 1.Preheating:25~150 , Time:60~90sec. |
| 2 | 255±5 | | 5±0.5sec; | 2.Peak Temp.:255±5 , Duration:5±0.5sec. | |
| 3 | | 2 | 10 | /sec. | 3. Cooling Speed: 2~10 /sec. |

/ Resistance to Soldering Heat Test Conditions

270±5 10±1 sec. Temp.:270±5 Time:10±1 sec

/ Packaging SPEC.

/ BULK

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	只袋	袋盒	只盒	盒箱	只箱	袋	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