

IRF640

Rev.G Jul.-2018

/ Descriptions

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

/ Features

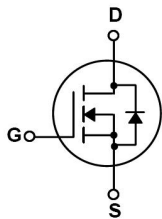
Low gate charge, low crss, fast switching.

/ Applications

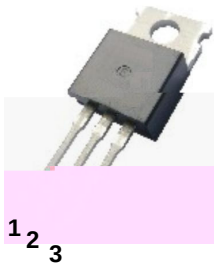
DC/DC

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.

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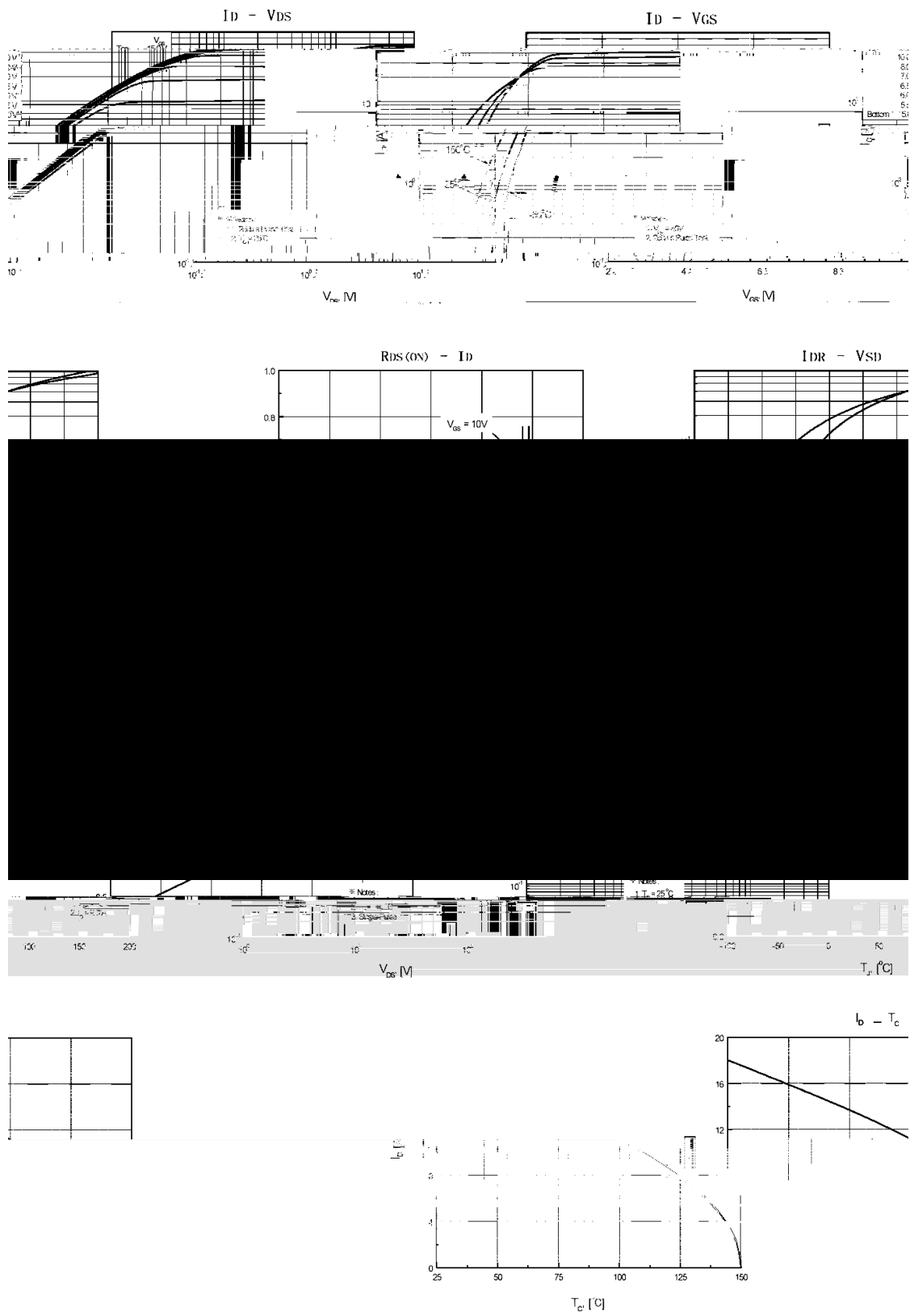
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Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	200	V
Drain Current	$I_D(T_C=25^\circ\text{C})$	18	A
	$I_D(T_C=100^\circ\text{C})$	11.4	A
Pulsed Drain Current	I_{DM}	72	A
Gate-Source Voltage	V_{GSS}	± 30	V
Single Pulsed Avalanche Energy	E_{AS}	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	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	200			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=200V$ $V_{GS}=0V$			10	μA
		$V_{DS}=160V$ $T_C=125^\circ\text{C}$			100	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 30V$ $V_{DS}=0V$			± 0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	2.0		4.0	V
Forward Transconductance	g_{FS}	$V_{DS}=40V$ $I_D=9.0A$		13		S

 Static Drain-Source
 D

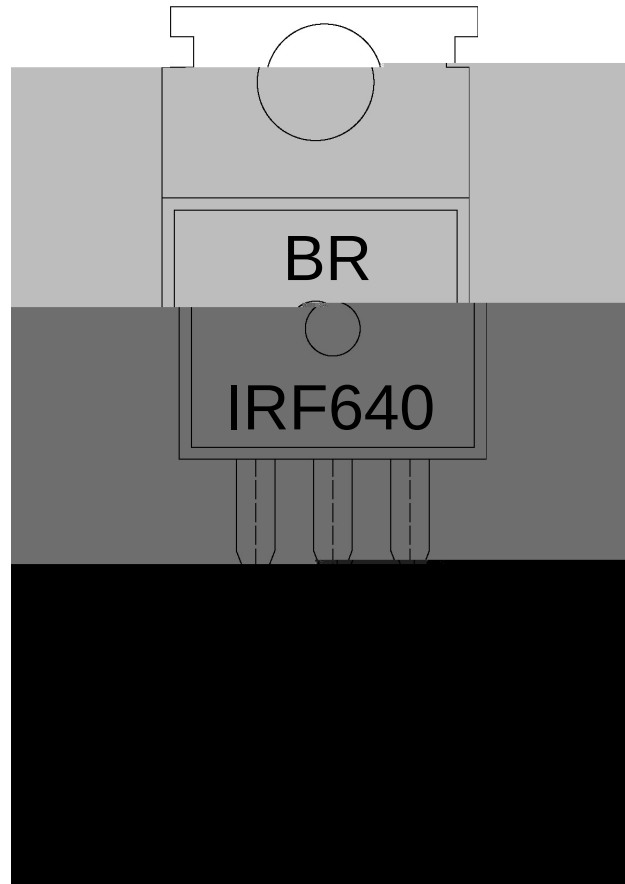
/ Electrical Characteristic Curve



Package Dimensions



/ Marking Instructions



BR

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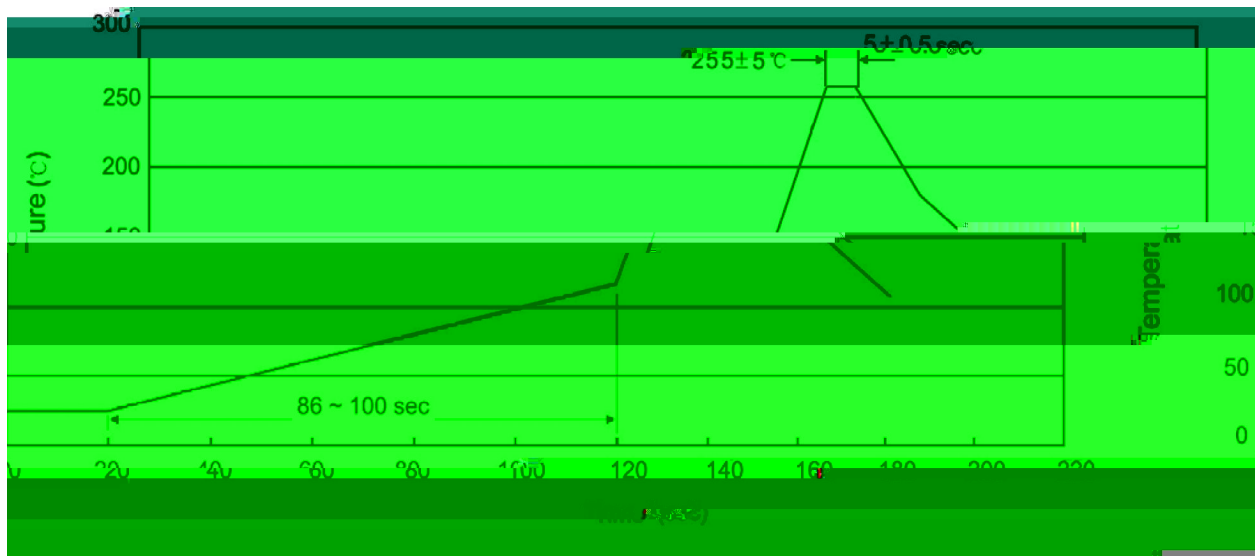
Note:

BR: Company Code

IRF640: Product Type.

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

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



Note:

- $$\begin{array}{llll} 1 & 25 & 150 & 60 \text{ 90sec;} \\ 2 & 255 \pm 5 & & 5 \pm 0.5 \text{sec;} \\ 3 & & 2 & 10 \text{ /sec.} \end{array}$$

- 1.Preheating:25~150 , Time:60~90sec.
- 2.Peak Temp.:255±5 , Duration:5±0.5sec.
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

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/ TUBE

/ Notices