

**/ Descriptions**

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

**/ Features**

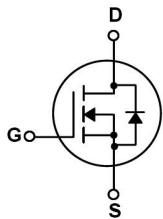
Low gate charge, low crss, fast switching.

**/ 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<sub>FE</sub> Classifications & Marking**

See Marking Instructions.

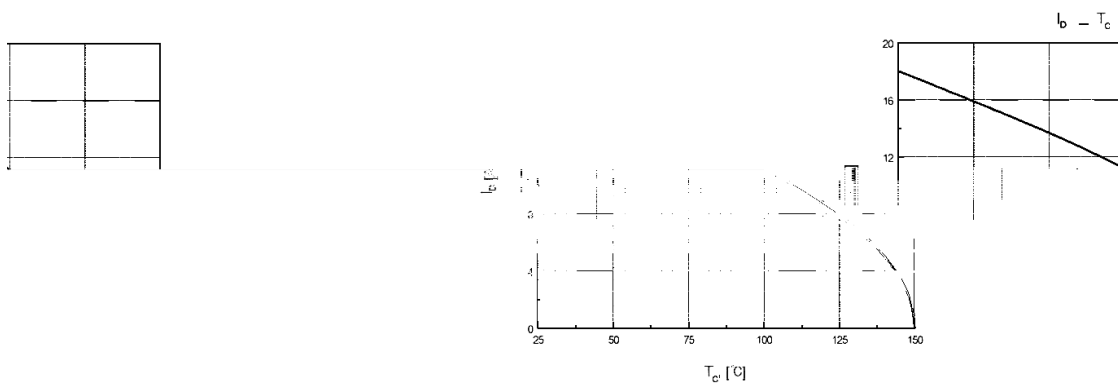
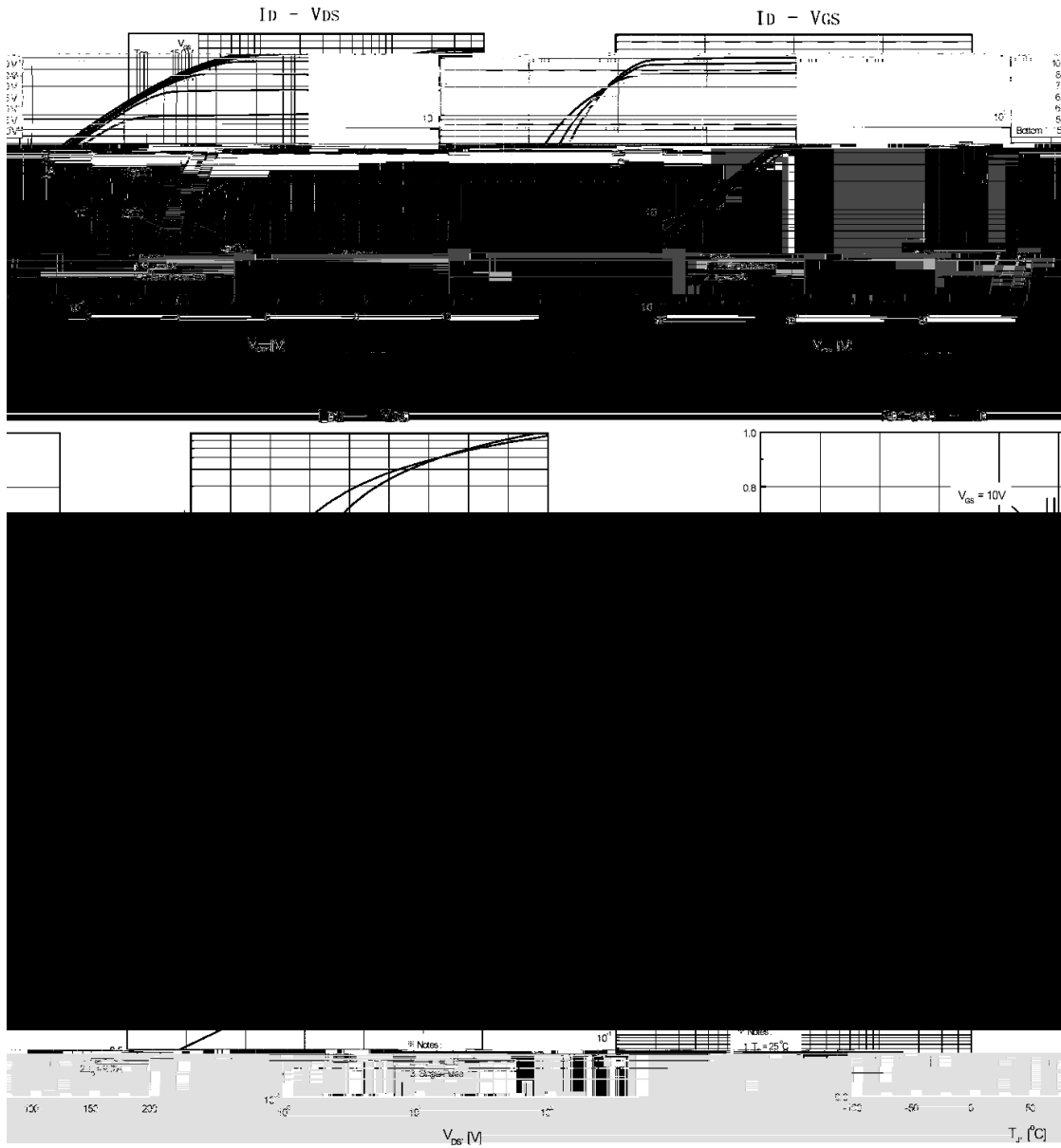
# IRF640

Rev.G Jul.-2018

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	$V_{GSS}$	$\pm 30$	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	

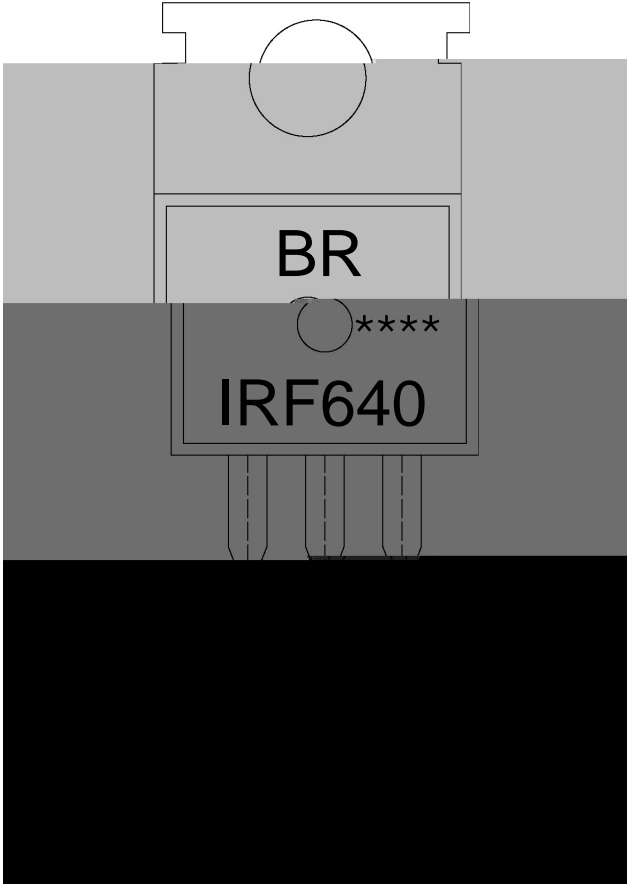
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Zero Gate Voltage Drain Current	$BV_{DSS}$	$V_{GS}=0V$ $I_D=250\text{ A}$	200			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=200V$ $V_{GS}=0V$			10	A
		$V_{DS}=160V$ $T_C=125^\circ\text{C}$			100	A
Gate-Body Leakage Current Forward	$I_{GSS}$	$V_{GS}=\pm 30V$ $V_{DS}=0V$			$\pm 0.1$	A
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\text{ A}$	2.0		4.0	V
Forward Transconductance Static Drain-Source	$g_{FS}$	$V_{DS}=40V$ $I_D=9.0A$		13		S

**/ Electrical Characteristic Curve**





**/ Marking Instructions**



BR

IRF640

\*\*\*\*\*

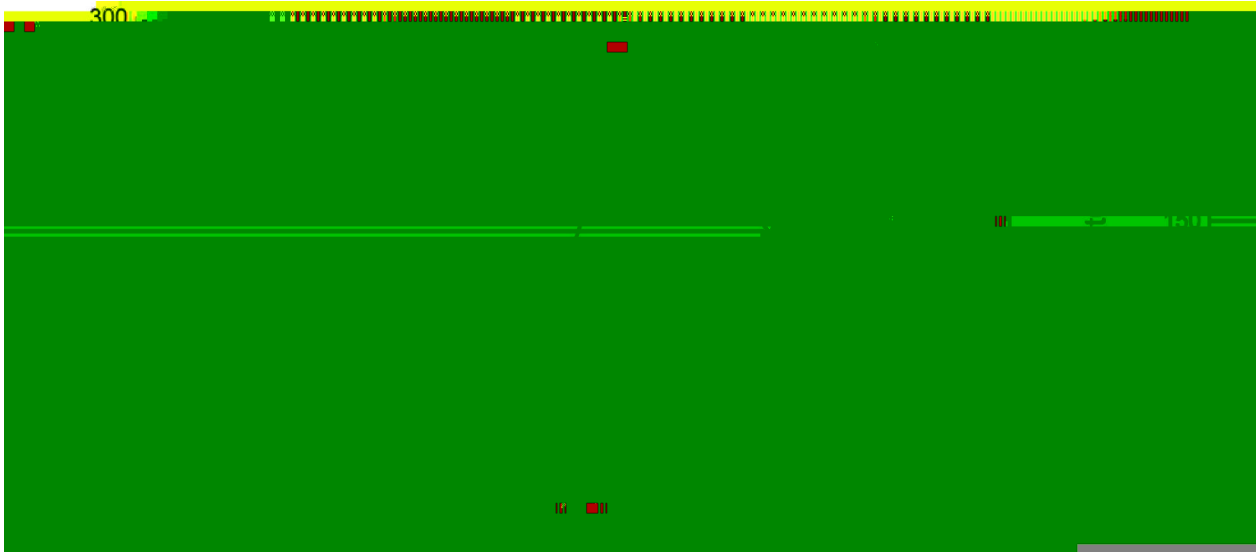
Note:

BR: Company Code

IRF640: Product Type.

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

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



- |   |       |     |           |        |   |                                      |
|---|-------|-----|-----------|--------|---|--------------------------------------|
| 1 | 25    | 150 | 60        | 90sec; | Note:                                   | 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

			Inner Boxes/Outer Box		3
		/	5	/	
		2,000		10,000	

/ TUBE

			Inner Boxes/Outer Box		3
Units/Tube	Tubes/Inner Box	Units/Inner Box			
/	/	/		/	

**/ Notices**