

IRF840

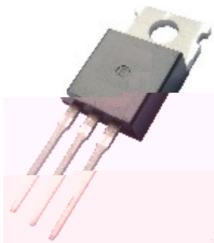
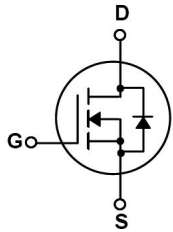
Rev.H Jul.-2018

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

Low gate charge, low crss, fast switching.

DC/DC

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



PIN1 G

PIN 2 D

PIN 3 S

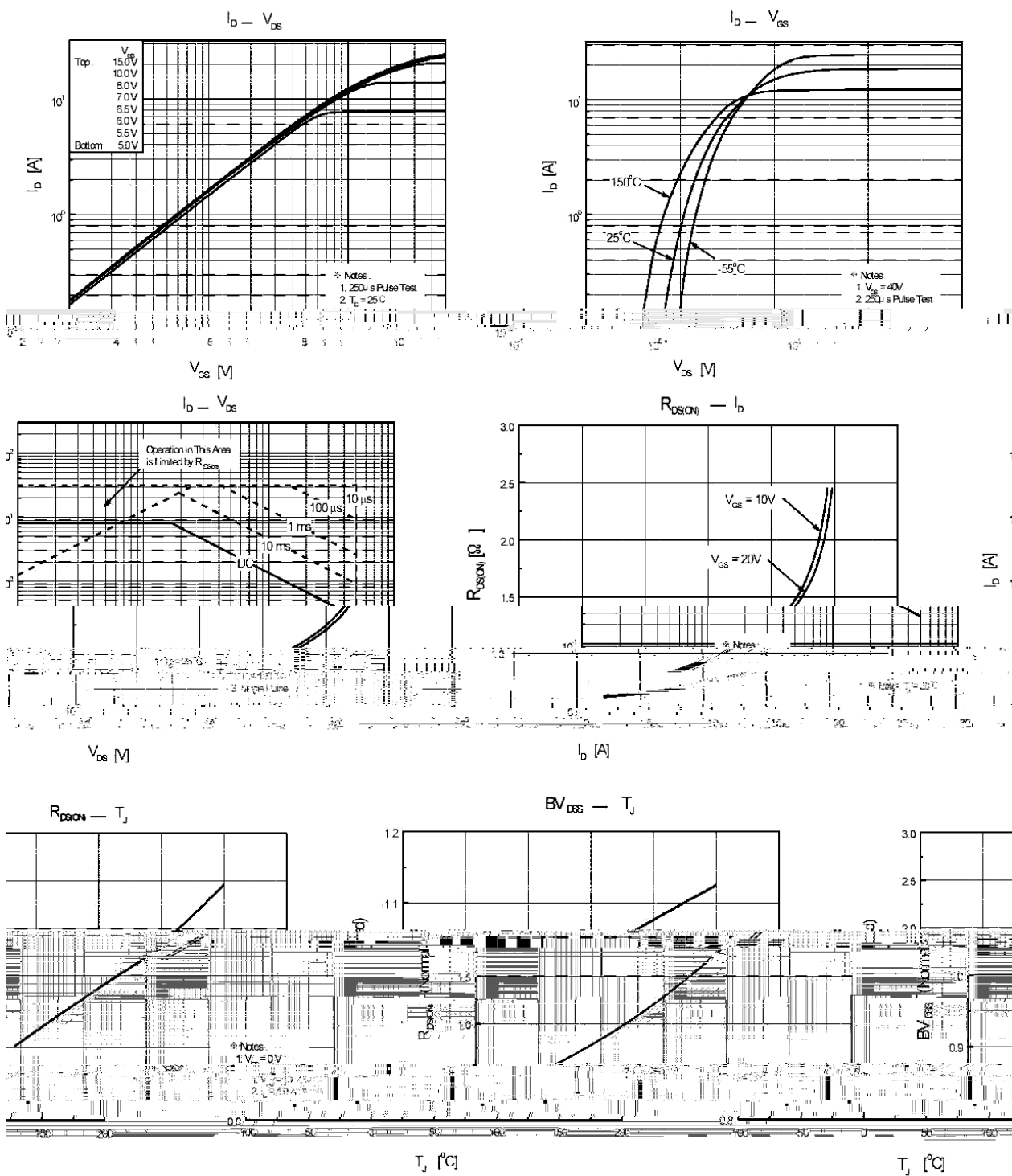
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	500	V
Drain Current	$I_D(T_C=25^{\circ}C)$	8.0	A
	$I_D(T_C=100^{\circ}C)$	5.1	A
Pulsed Drain Current	I_{DM}	32	A
Gate-Source Voltage	V_{GS}	± 30	V
Avalanche Current	I_{AR}	8	A
Single Pulsed Avalanche Energy	E_{AS}	320	mJ
Repetitive Avalanche Energy	E_{AR}	13.4	mJ
Total Power Dissipation	$P_D(T_C=25^{\circ}C)$	134	W
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^{\circ}C$

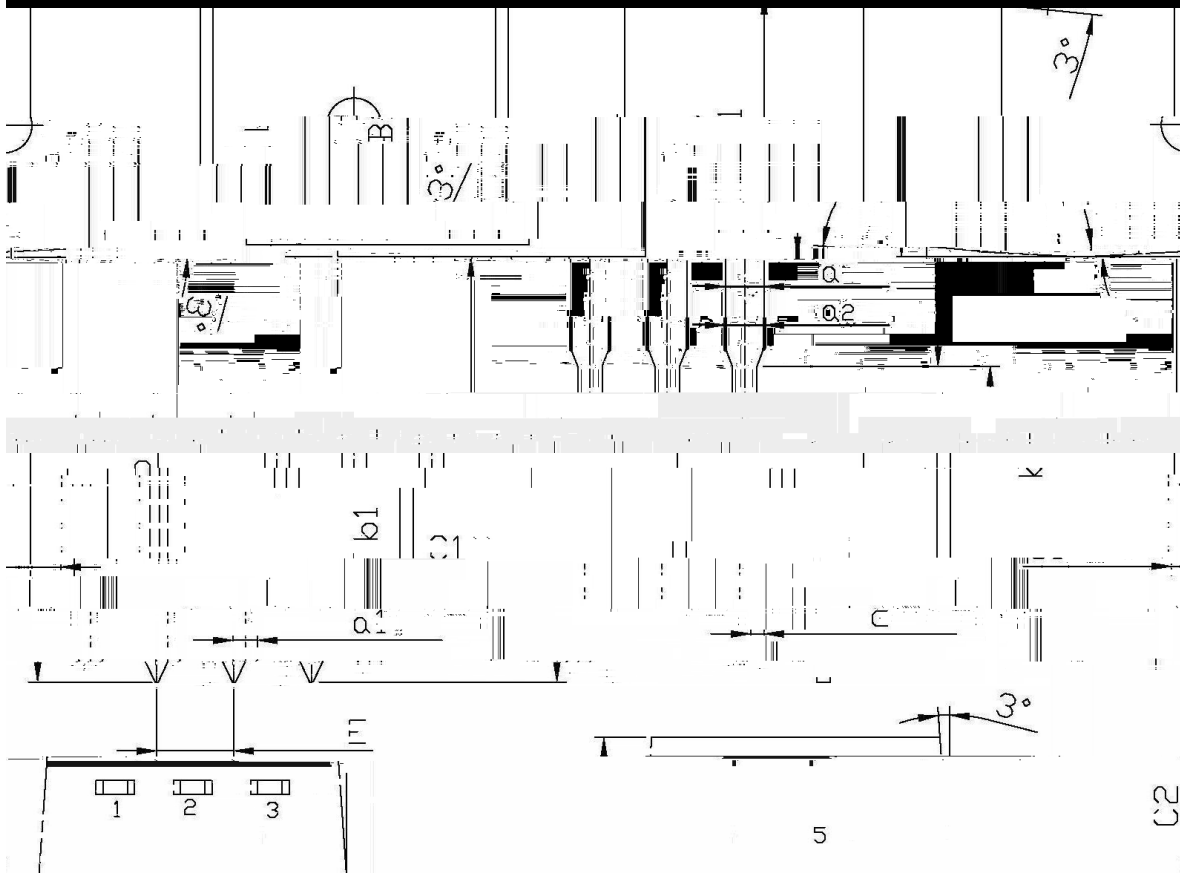
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Zero Gate Voltage Drain Current	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	500			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=500V$ $V_{GS}=0V$			10	μA
		$V_{DS}=400V$ $T_C=125^{\circ}C$			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
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=4.0A$		0.70	0.85	Ω
Forward Transconductance	g_{FS}	$V_{DS}=40V$ $I_D=4.0A$		7.0		S
Forward On Voltage	V_{SD}	$V_{GS}=0V$ $I_S=8A$			1.5	V
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		1570	2040	pF
Output Capacitance	C_{oss}			150	195	
Reverse Transfer Capacitance	C_{rss}			15	20	
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=250V$ $I_D=8A$ $R_G=25\Omega$		25	60	ns
Turn-On Rise Time	t_r			75	160	
Turn-Off Delay Time	$t_{d(off)}$			125	260	
Turn-Off Fall Time	t_f			75	160	

/ Electrical Characteristic Curve

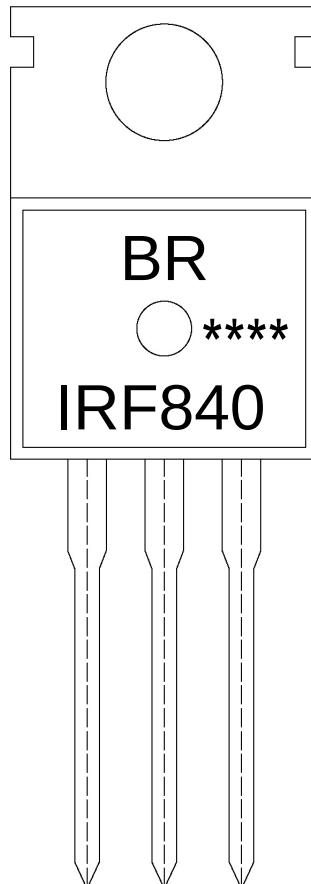


[REDACTED]



Dimensions in Millimeters		Dimensions in Millimeters	
Symbol		Symbol	
max	9.8	max	10.2
9.6	9.4	9.6	9.4
2.2	2.6	2.2	2.6
0.7	0.9	0.7	0.9
1.3	1.4	1.3	1.4
2.7	2.8	2.7	2.8
1.45	1.5	1.45	1.5

/ Marking Instructions



BR

IRF840

Note:

BR: Company Code

IRF840: 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	Units					Dimension (unit mm ³)		
	Units/Bag /	Bags/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Bag	Inner Box	Outer Box
TO-220/F	200	10	2,000	5	10,000	135×190	237×172×102	560×245×195

/ TUBE

Package Type	Units					Dimension (unit mm ³)		
	Units/Tube /	Tubes/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Tube	Inner Box	Outer Box
TO-220/F	50	20	1,000	5	5,000	532×31.4×5.5	555×164×50	575×290×180

/ Notices