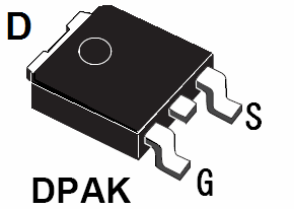
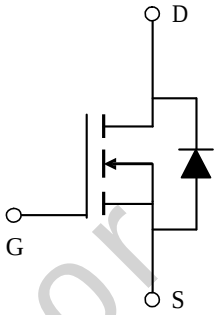
■ DESCRIPTION

The IRLR8726TRPBF is N channel enhancement mode power effect transitor which is produced using high cell density advanced trench technology.

The high density process is especially able to minize on-state resistance.These devices are. especially suited for low voltage application power management DC-DC converters.

■ PIN CONFIGURATION





■ FEATURE

- ***30V/85A, $R_{DS(ON)}$=4.0mΩ(typ.)@VGS= 10V***
- ***30V/65A, $R_{DS(ON)}$=6.0mΩ(typ.)@VGS= 4.5V***
- Super high design for extremely low $R_{DS(ON)}$
- Exceptional on-resistance and Maximum DC current capability
- Full RoHS compliance
- TO-252 package design
- 100% UIS Tested
- 100% Rg tested

■ APPLICATIONS

- Power Management
- DC/DC Converter
- Load Switch

■ ABSOLUTE MAXIMUM RATINGS (T_A = 25℃ Unless otherwise noted)

Symbol	Parameter	Max.	Units
V_{DS}	Drain-to-Source Voltage	30	V
V_{GS}	Gate-to-Source Voltage	± 20	
I_D @ T_A = 25℃	Continuous Drain Current, V_{GS} @ 10V	18	A
I_D @ T_A = 70℃	Continuous Drain Current, V_{GS} @ 10V	14	
I_D @ TC(Bottom) = 25℃	Continuous Drain Current, V_{GS} @ 10V	85	
I_D @ TC(Bottom) = 100℃	Continuous Drain Current, V_{GS} @ 10V	39	
I_D @ TC = 25℃	Continuous Drain Current, V_{GS} @ 10V (Package Limited)	42	
I_{DM}	Pulsed Drain Current	160	
P_D @T_A = 25℃	Power Dissipation	3.6	W
P_D @TC(Bottom) = 25℃	Power Dissipation	52	
	Linear Derating Factor	0.03	W/℃
T_J T_{STG}	Operating Junction and Storage Temperature Range	-55 to + 150	℃

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress rating only and functional device operation is not implied

■ *ELECTRICAL CHARACTERISTICS(T_A=25℃ Unless otherwise noted)*

Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Parameters						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	V_{GS}=0V, I_D= 250uA	30			V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS}, I_D= 250uA	1.0		2.5	V
I_{GSS}	Gate Leakage Current	V_{DS}=0V, V_{GS}=±25V			±100	nA
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=-24V, V_{GS}=0			1	uA
		V_{DS}=-24V, V_{GS}=0 T_J=85℃			30	
$R_{DS(ON)}$	Drain-Source On-Resistance	V_{GS}= 10V, I_D= 20 A		4.0	5.5	mΩ
		V_{GS}= 4.5V, I_D= 15 A		6.0	6.8	
Source-Drain Diode						
V_{SD}	Diode Forward Voltage	I_S= 40 A, V_{GS}=0V		0.7	1.3	V
Dynamic Parameters						
Q_g	Total Gate Charge	V_{DS}= 15V V_{GS}= 10V I_D= 49 A		23		nC
Q_{gs}	Gate-Source Charge			5		
Q_{gd}	Gate-Drain Charge			3		
C_{iss}	Input Capacitance	V_{DS}= 10V V_{GS}=0V f=1MHz		1356		pF
C_{oss}	Output Capacitance			55		
C_{rss}	Reverse Transfer Capacitance			45		
$T_{d(on)}$	Turn-On Time	V_{DS}= 15V I_D= 40A V_{GEN}=4.5V R_G=1.8Ω		8		nS
T_r				9		
$T_{d(off)}$	Turn-Off Time			32		
T_f				6		

Note: 1. Pulse test: pulse width<=300uS, duty cycle<=2%

2.Static parameters are based on package level with recommended wire bonding

■ *TYPICAL CHARACTERISTICS (25℃ Unless Note)*

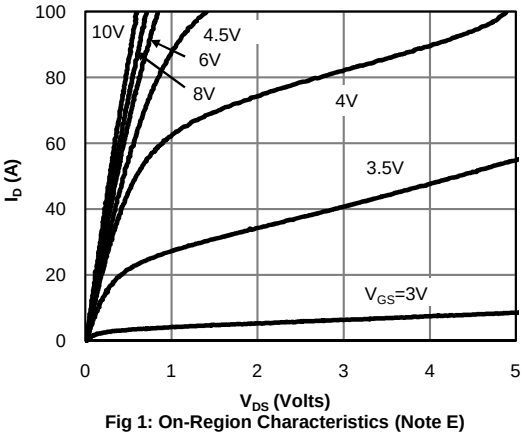


Fig 1: On-Region Characteristics (Note E)

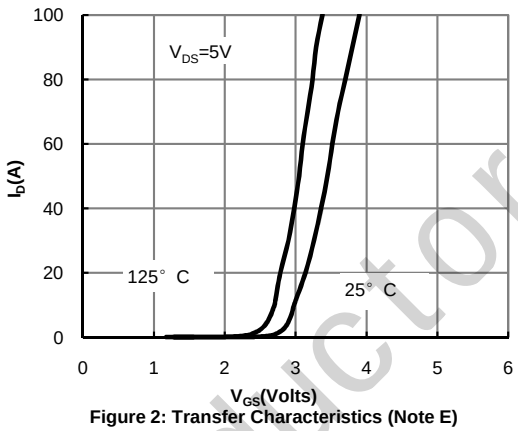


Figure 2: Transfer Characteristics (Note E)

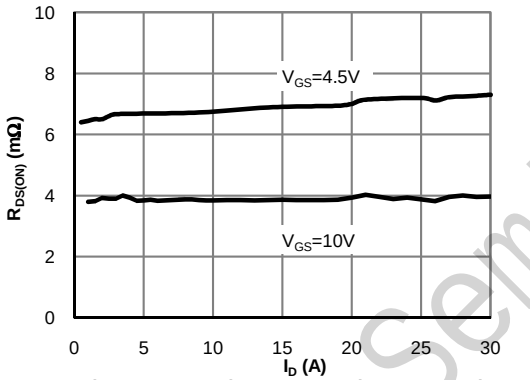


Figure 3: On-Resistance vs. Drain Current and Gate Voltage (Note E)

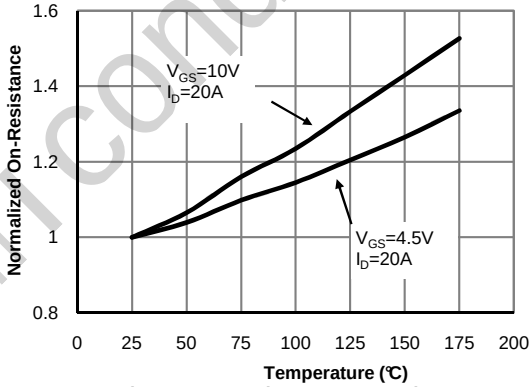


Figure 4: On-Resistance vs. Junction Temperature (Note E)

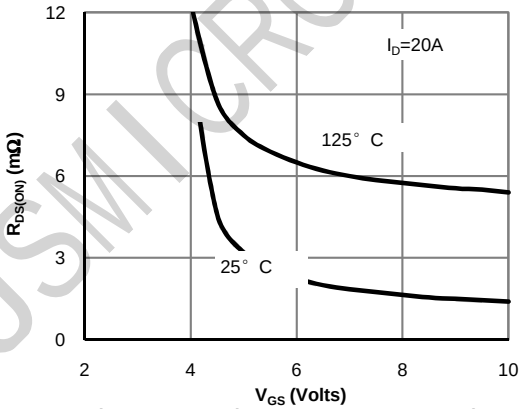


Figure 5: On-Resistance vs. Gate-Source Voltage (Note E)

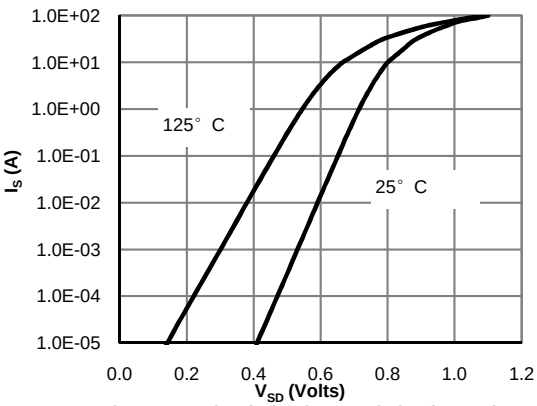


Figure 6: Body-Diode Characteristics (Note E)

■ *TYPICAL CHARACTERISTICS (continuous)*

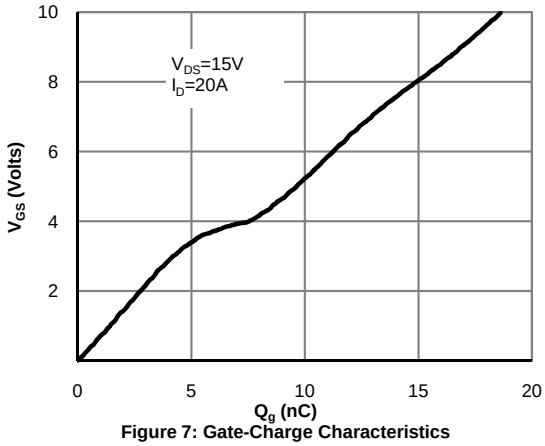


Figure 7: Gate-Charge Characteristics

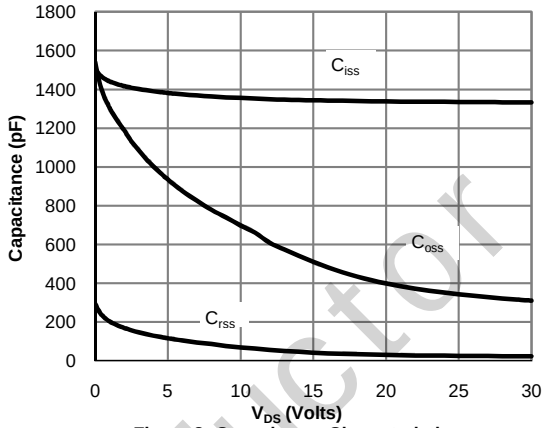


Figure 8: Capacitance Characteristics

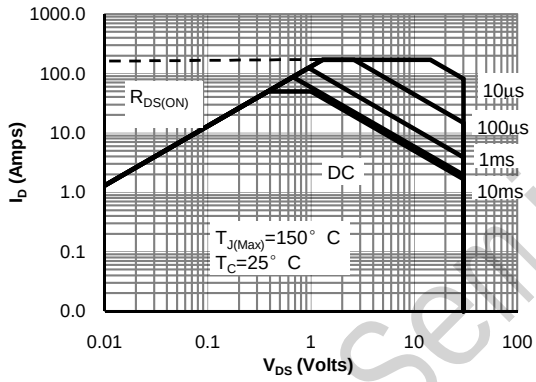


Figure 9: Maximum Forward Biased Safe Operating Area (Note F)

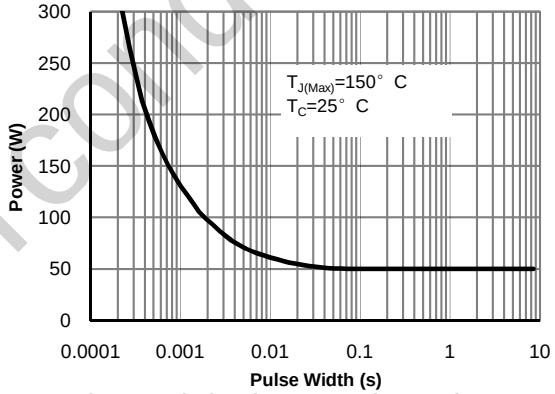


Figure 10: Single Pulse Power Rating Junction-to-Case (Note F)

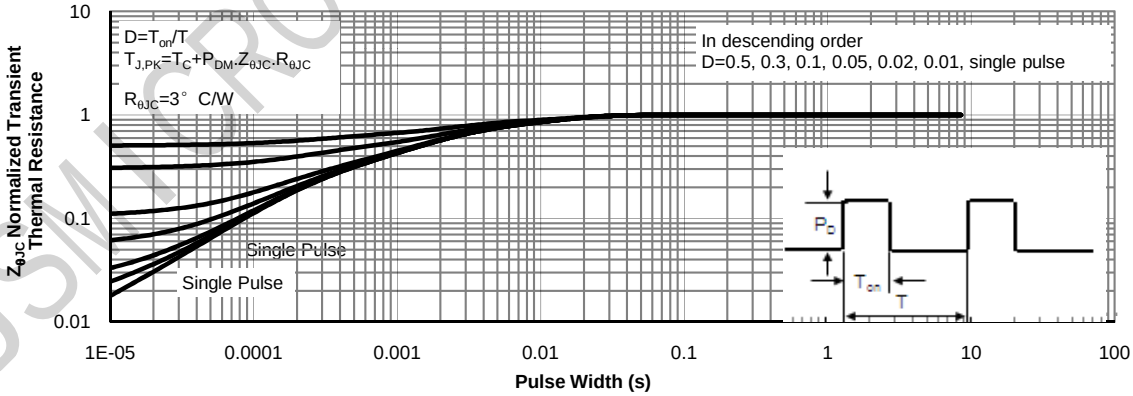
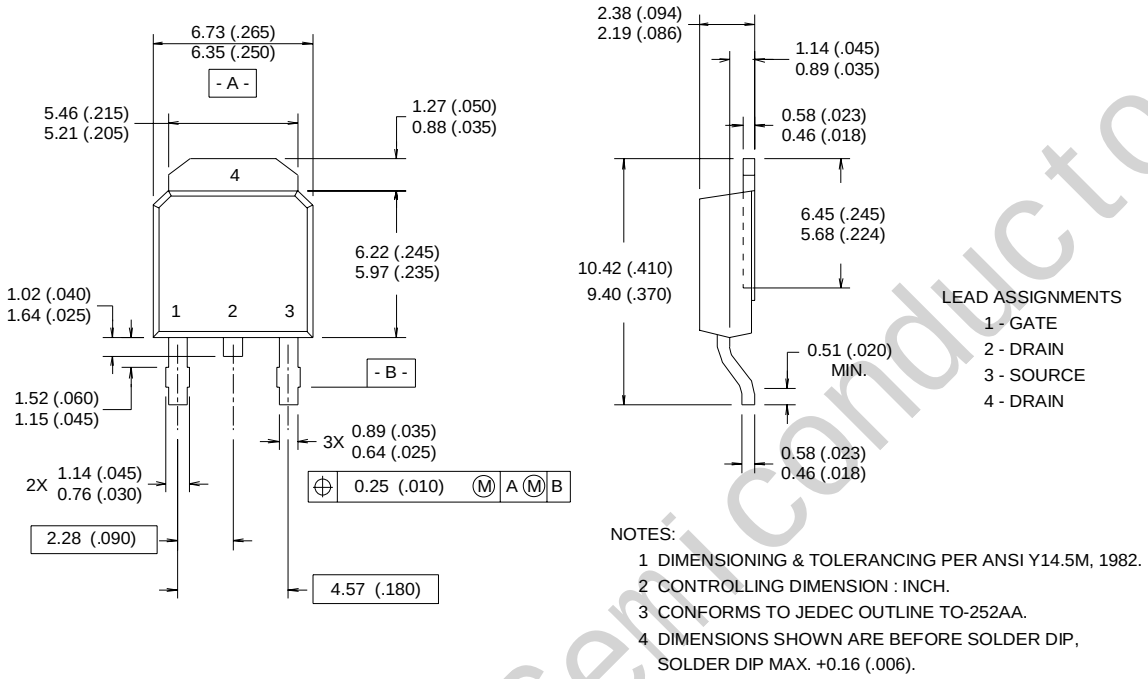


Figure 11: Normalized Maximum Transient Thermal Impedance (Note F)

■ TO-252 Outline Package Dimension

Dimensions are shown in millimeters (inches)



LEAD ASSIGNMENTS
1 - GATE
2 - DRAIN
3 - SOURCE
4 - DRAIN

NOTES:
1 DIMENSIONING & TOLERANCING PER ANSI Y14.5M, 1982.
2 CONTROLLING DIMENSION : INCH.
3 CONFORMS TO JEDEC OUTLINE TO-252AA.
4 DIMENSIONS SHOWN ARE BEFORE SOLDER DIP, SOLDER DIP MAX. +0.16 (.006).

单击下面可查看定价，库存，交付和生命周期等信息

>>JSMSEMI(杰盛微)