

Descriptions

This is N-Channel Enhancement Mode Field Effect Transistor in a DFN2×2B-6L Plastic Package.

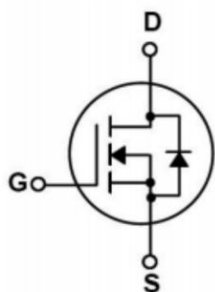
Features

- $V_{DS} (V) = 30V$ $I_D = 15A$ ($V_{GS} = \pm 20V$)
- $R_{DS(ON)}@10V \leq 8.3mR$ (Typ. 7.8mR)
- $R_{DS(ON)}@4.5V \leq 15mR$ (Typ. 11mR)
- HF Product.

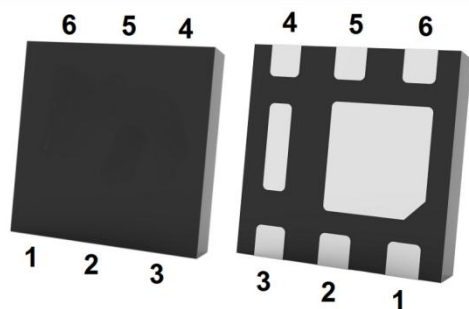
Applications

Suited for low voltage applications such as automotive, DC/DC Converters, and high efficiency switching for power management in portable and battery operated products.

Equivalent Circuit



Pinning



出脚	定义
Pin1	D
Pin2	D
Pin3	G
Pin4	S
Pin5	D
Pin6	D

Marking

See Marking Instructions.

Absolute Maximum Ratings(Ta=25°C)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V _{DSS}	30	V
Drain Current		I _D	15	A
Gate-Source Voltage		V _{GS}	±20	V
Power Dissipation		P _D (T _c =25°C)	3.0	W
Junction Temperature Range		T _j	150	°C
Storage Temperature Range		T _{stg}	-55~150	°C
Maximum Junction-to-Ambient	t ≤ 10s	R _{θJA}	41.7	°C/W
	Steady-State	R _{θJA}	75	

Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V	I _D =250μA	30	35.5		V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =30V	V _{GS} =0V			1.0	μA
Gate-Body leakage current	I _{GSS}	V _{GS} =±20V	V _{DS} =0V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS}	I _D =250μA	1.0	1.8	2.5	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10V	I _D =10A		7.8	8.3	mΩ
		V _{GS} =4.5V	I _D =10A		11	15	mΩ
Diode Forward Voltage	V _{SD}	V _{GS} =0V	I _S =1.0A			1.4	V
Input Capacitance	C _{iss}	V _{DS} =25V f=1.0MHz	V _{GS} =0V		1170		pF
Output Capacitance	C _{oss}				110		pF
Reverse Transfer Capacitance	C _{rss}				100		pF
Gate resistance	R _g	V _{DS} =0V f=1.0MHz	V _{GS} =0V		3.7		Ω
Total Gate Charge	Q _{g(10V)}	V _{GS} =10V I _D =10A	V _{DS} =15V		40		nC
Total Gate Charge	Q _{g(4.5V)}				22		nC
Gate-Source Charge	Q _{gs}				11		nC
Gate-Drain Charge	Q _{gd}				5		nC

Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{DS}=15\text{ V}$ $V_{GS}=10\text{ V}$ $R_L=0.75\Omega$ $R_{GEN}=3\Omega$		11		ns ns ns ns
Turn-On Rise Time	t_r			14		
Turn-Off Delay Time	$t_{d(off)}$			38		
Turn-Off Fall Time	t_f			10		

Electrical Characteristic Curve

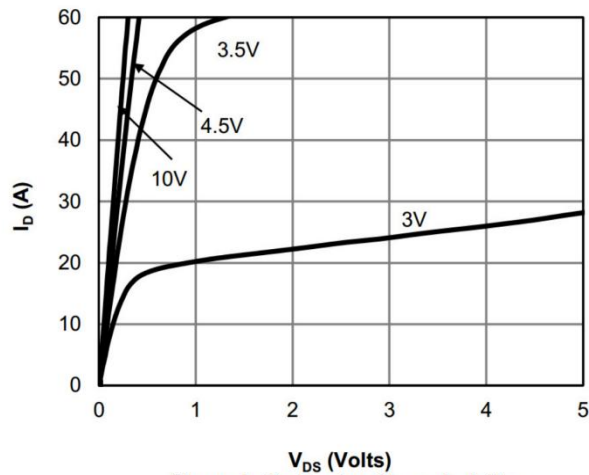


Figure 1: On-Region Characteristics

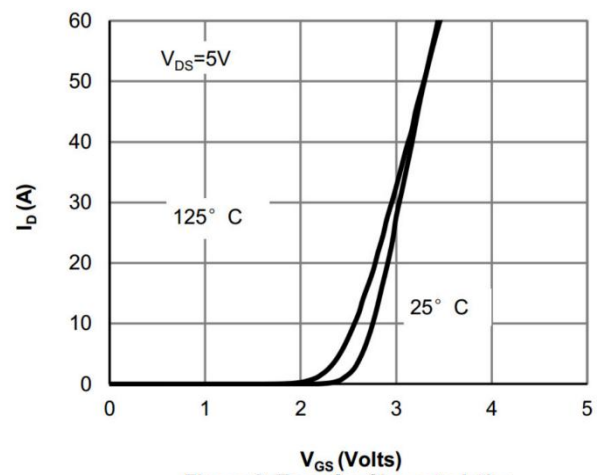


Figure 2: Transfer Characteristics

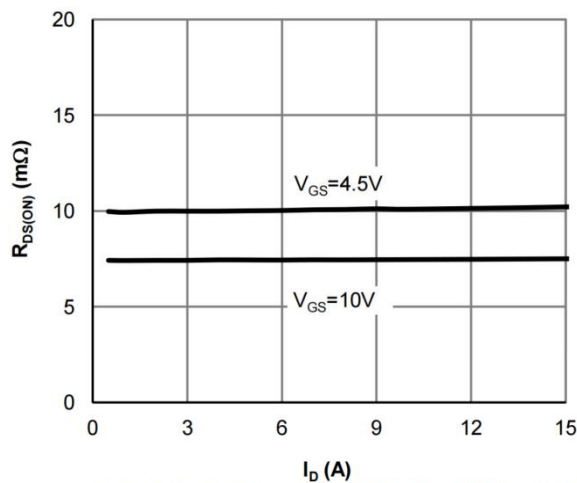


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

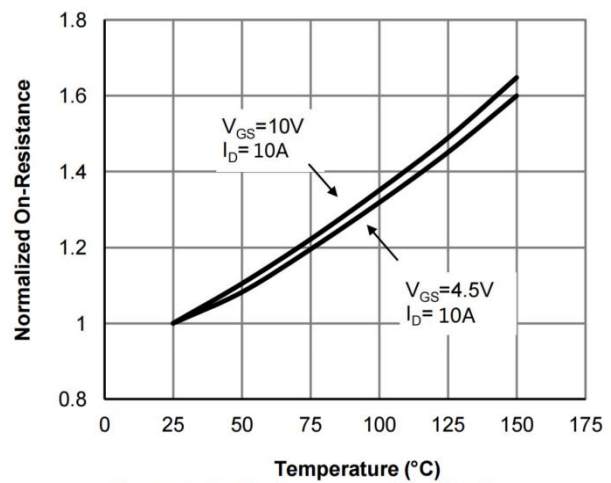


Figure 4: On-Resistance vs. Junction Temperature

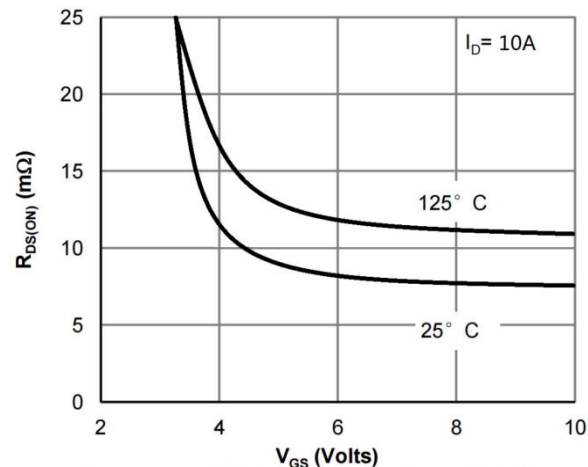


Figure 5: On-Resistance vs. Gate-Source Voltage

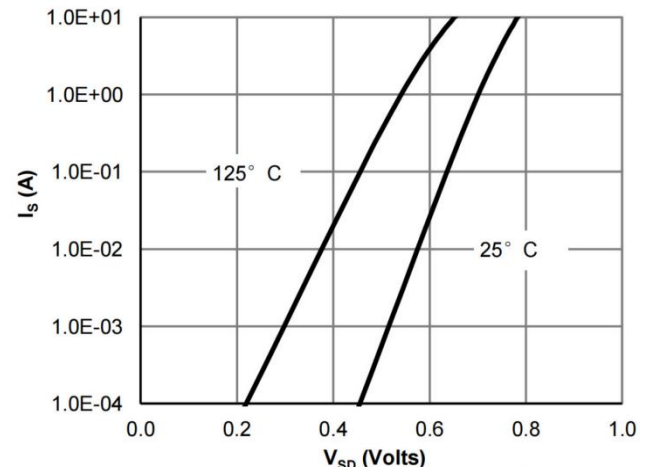


Figure 6: Body-Diode Characteristics

Electrical Characteristic Curve

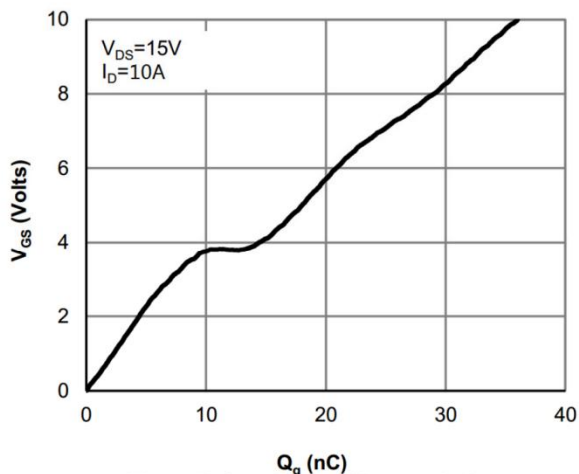


Figure 7: Gate-Charge Characteristics

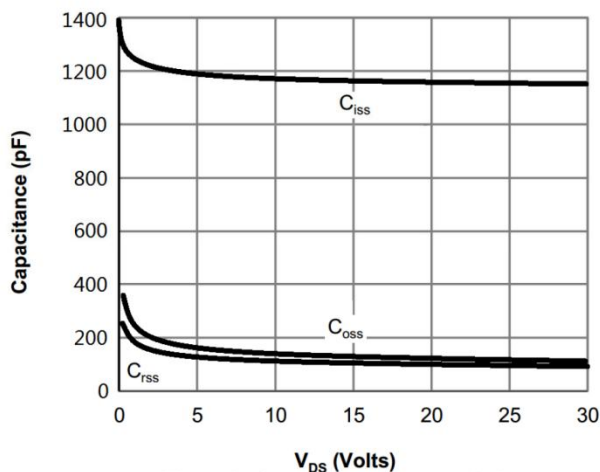


Figure 8: Capacitance Characteristics

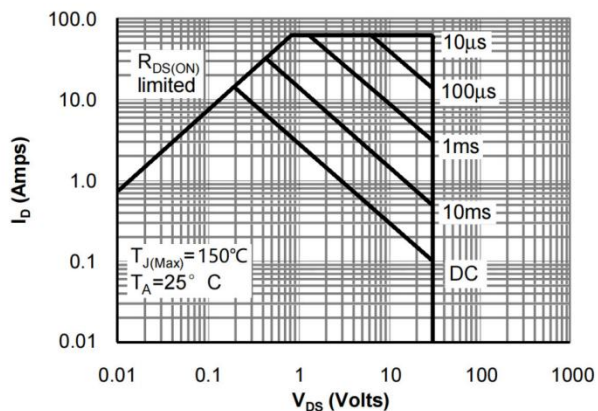


Figure 9: Maximum Forward Biased Safe Operating Area

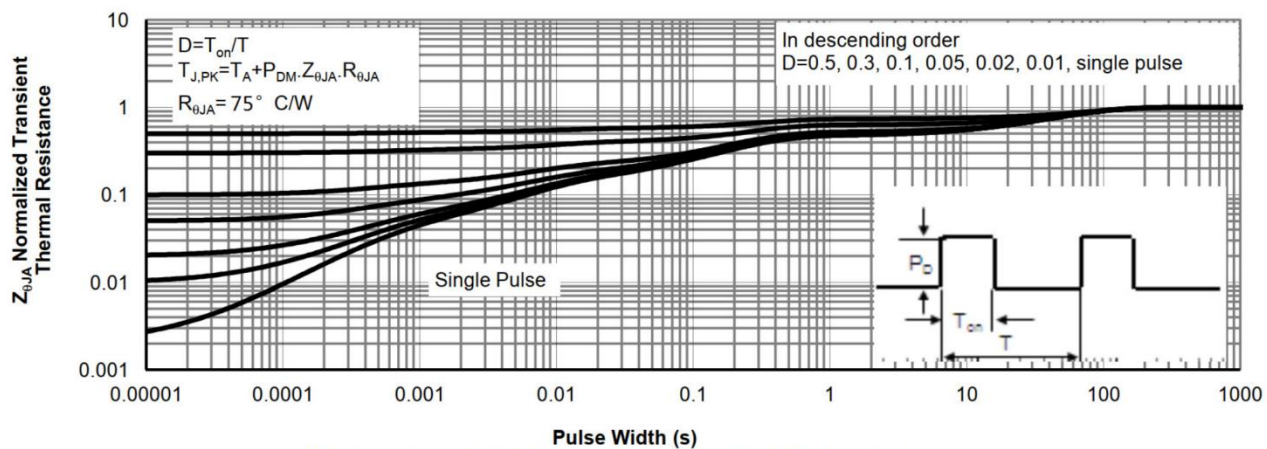


Figure 10: Normalized Maximum Transient Thermal Impedance

Marking Instructions



Note:
COT: Company Code
080N03: Product Type Code
****: Lot No. Code, code change with Lot No

Packaging SPEC

REEL

Package Type	Units					Dimension (unit: mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
DFN2×2B-6L	4,000	10	40,000	4	160,000	7" ×8	210×205×205	445×435×230

Package Dimensions

DFN2 X2B-6L-0.5

Unit:mm

