

Descriptions

This 20V 45A is P-Channel Enhancement Mode Field Effect Transistor in a PDFN3×3A-8L Plastic Package.

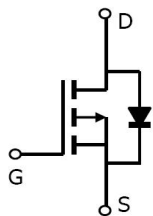
Features

- $V_{DS} (V) = -20V$
- $I_D = -45A$ ($V_{GS} = \pm 12V$)
- $R_{DS(ON)}@-4.5V \leq 8.5m\Omega$ (Typ. $5.7m\Omega$)
- $R_{DS(ON)}@-2.5V \leq 12m\Omega$ (Typ. $7.8m\Omega$)
- Halogen-free Product

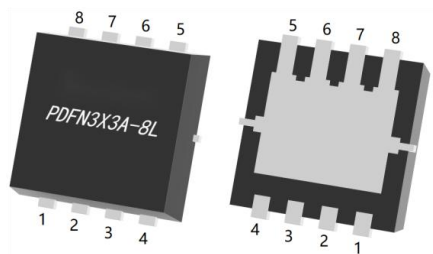
Applications

- Notebook AC-in load switch
- Battery protection charge/discharge.

Equivalent Circuit



Pinning



出脚	定义
Pin1	S
Pin2	S
Pin3	S
Pin4	G
Pin5	D
Pin6	D
Pin7	D
Pin8	D

Marking

See Marking Instructions.

Absolute Maximum Ratings(Ta=25°C)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	-20	V
Drain Current - Continuous		$I_D(T_c=25^\circ\text{C})$	-45	A
Drain Current – Pulsed		I_{DM}	-121	A
Gate-Source Voltage		V_{GS}	± 12	V
Power Dissipation		$P_D(T_c=25^\circ\text{C})$	28	W
Single Pulse Avalanche Energy(L=0.1mH)		E_{AS}	62.5	mJ
Avalanche Current(L=0.1mH)		I_{AS}	25	A
Junction and Storage Temperature Range		T_j, T_{stg}	-55 to 150	°C
Thermal resistance, junction - ambient	$t \leq 10s$	$R_{\theta JA}$	25	°C/W
	Steady-State		58	
Thermal resistance, junction - case	Steady-State	$R_{\theta JC}$	4.46	

Electrical Characteristics(Ta=25°C)

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Drain-Source Breakdown Voltage	BV _{DSS}	I _D =-250μA V _{GS} =0V	-20	-25.8		V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-20V V _{GS} =0V			-1	uA
Gate-Body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} = ±12V			± 100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =-250μA	-0.35	-0.85	-1.0	V
Static Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} =-4.5V, I _D =-15A		5.7	8.5	mΩ
		V _{GS} =-2.5V, I _D =-10A		7.8	12	
		V _{GS} =-1.8V, I _D =-5A		13.5	25	
Diode Forward Voltage	V _{SD}	I _S =-1A, V _{GS} =0V			-1.2	V
Input Capacitance	C _{iss}	V _{DS} =-10V V _{GS} =0V f=1.0MHz		3500		pF
Output Capacitance	C _{oss}			530		
Reverse Transfer Capacitance	C _{rss}			430		
Gate resistance	R _g	V _{GS} =0V V _{DS} =0V f=1MHz		8.5		Ω
Total Gate Charge	Q _g	V _{GS} =-4.5V, V _{DS} =-10V, I _D =-14A		45		nC
Gate Source Charge	Q _{gs}			11		
Gate Drain Charge	Q _{gd}			11.5		

Electrical Characteristic Curve

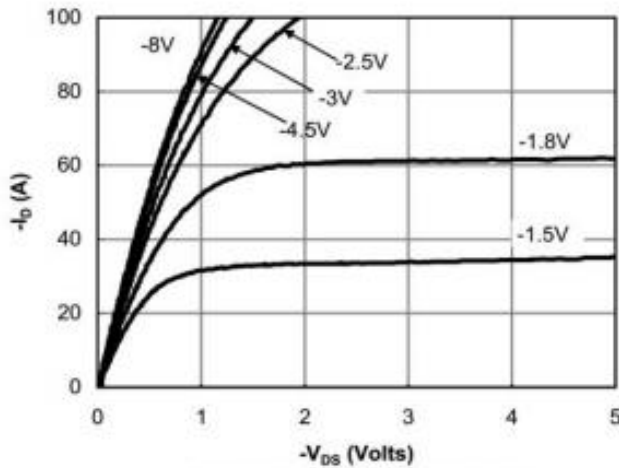


Fig 1: On-Region Characteristics

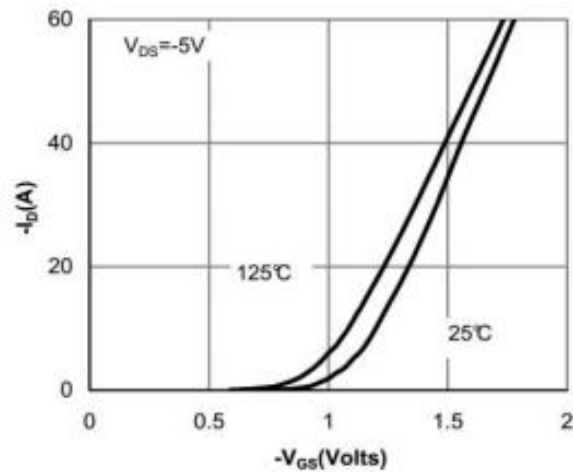


Figure 2: Transfer Characteristics

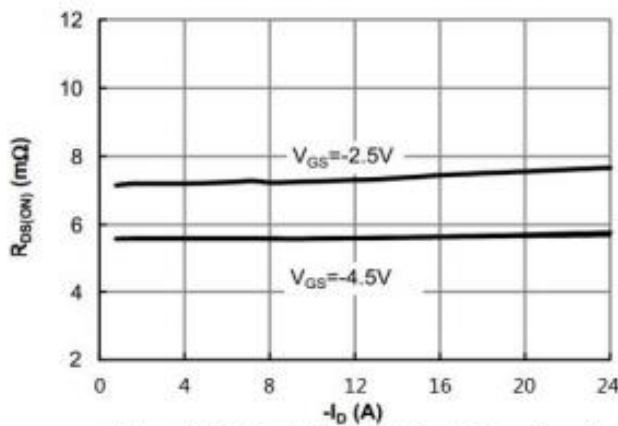


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

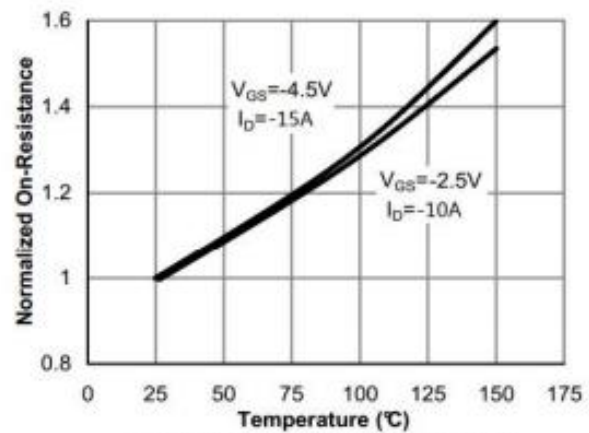


Figure 4: On-Resistance vs. Junction Temperature

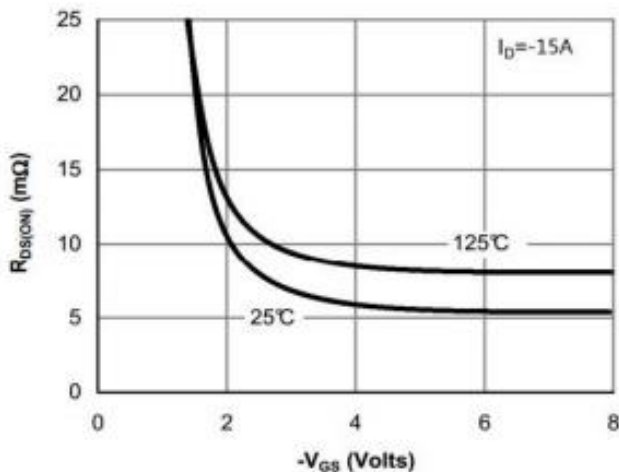


Figure 5: On-Resistance vs. Gate-Source Voltage

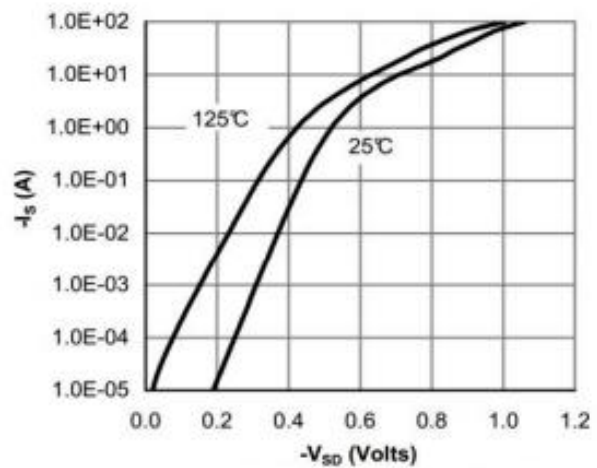


Figure 6: Body-Diode Characteristics

Electrical Characteristic Curve

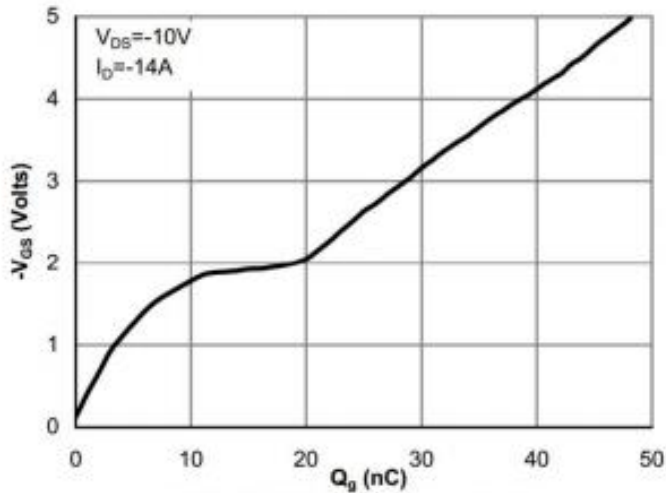


Figure 7: Gate-Charge Characteristics

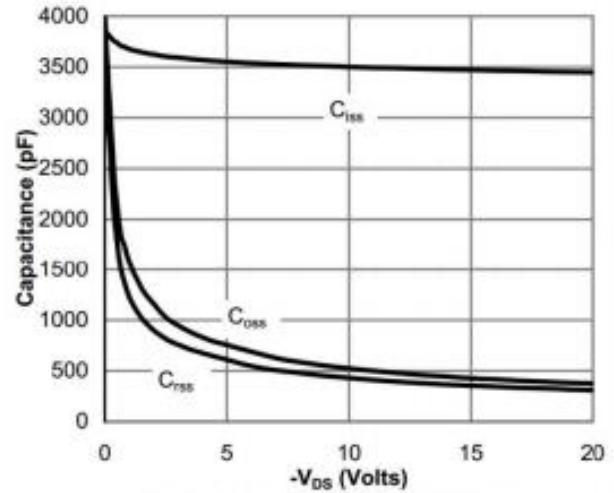


Figure 8: Capacitance Characteristics

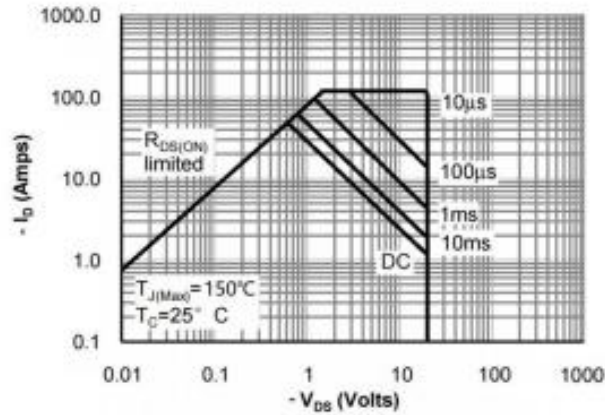


Figure 9: Maximum Forward Biased Safe Operating Area

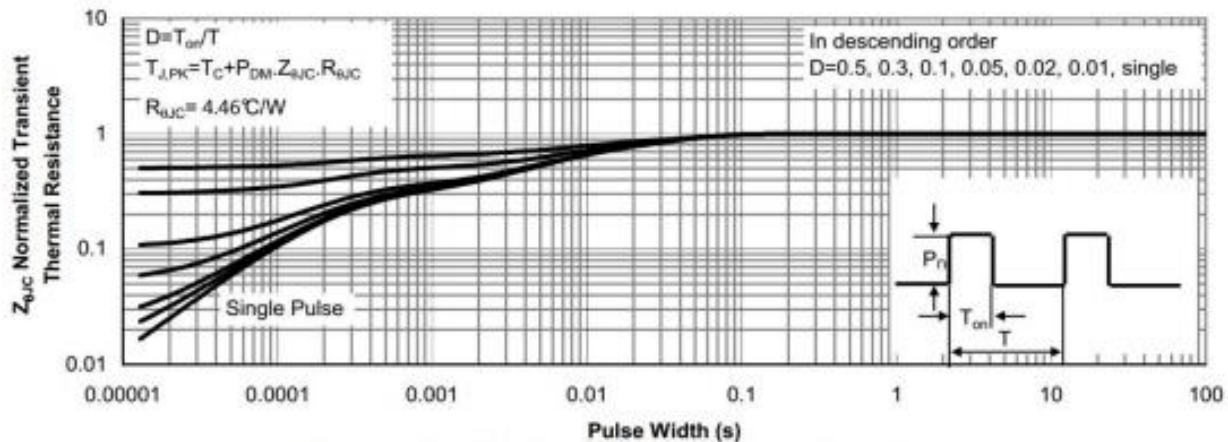
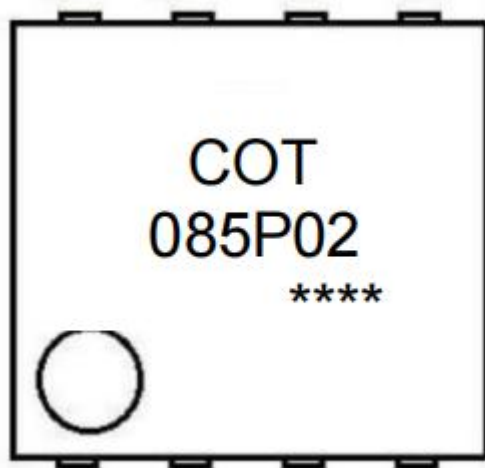


Figure 10: Normalized Maximum Transient Thermal Impedance

Marking Instructions



Note:

COT: Company Code

085P02: Product Type Code

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

Packaging SPEC

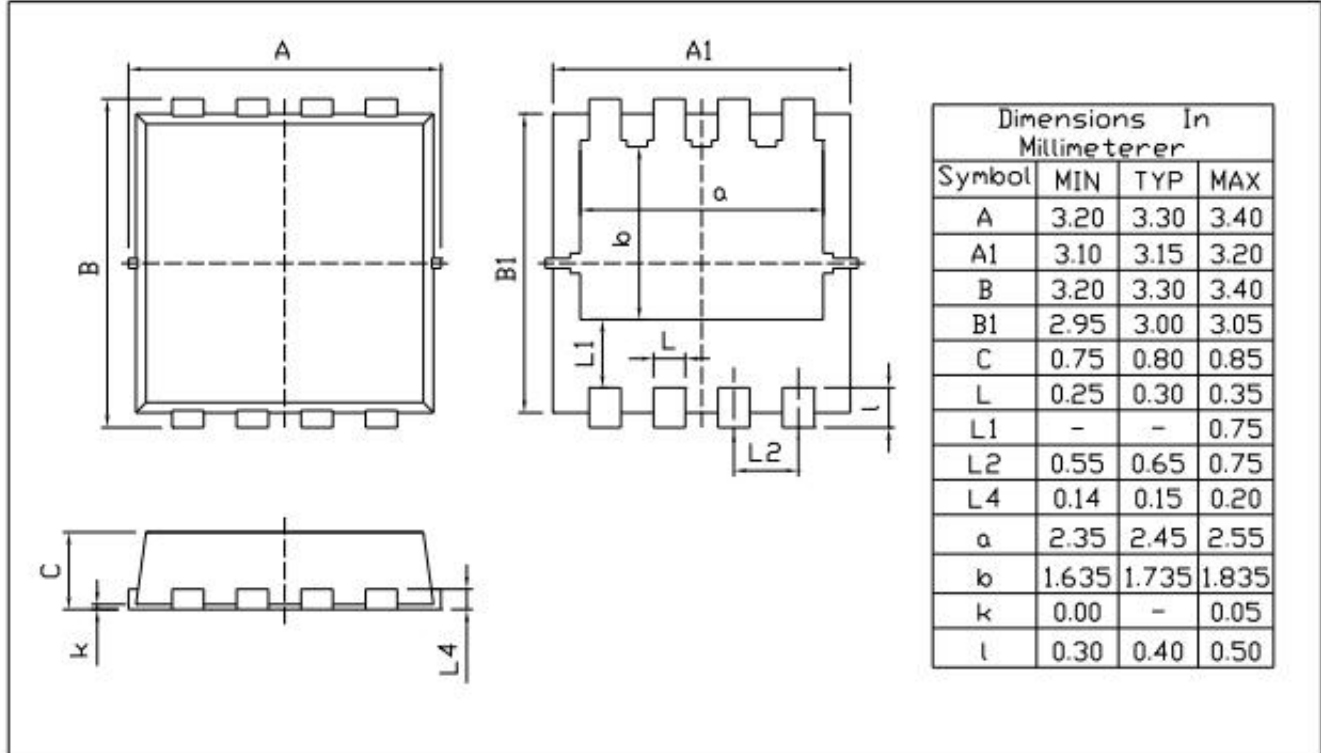
REEL INFORMATION

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
PDFN3×3A-8L	5,000	2	10,000	6	60,000	13" ×12	360×360×50	380×335×366

Package Outline Dimensions

PDFN3X3A-8L

Unit:mm



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