

Descriptions

This is 100V 62.5A N-Channel mosfet in a PDFN5×6 Plastic Package.

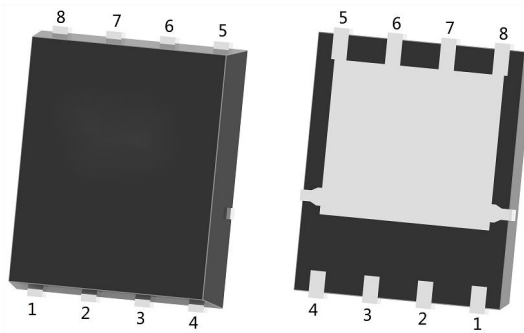
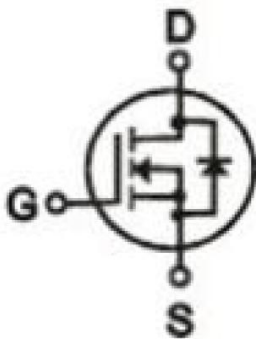
Features

- $V_{DS} (V) = 100V$ $I_D = 62.5A$ ($V_{GS} = \pm 20V$)
- $R_{DS(ON)}@10V \leq 10mR$ (Typ. 8.9mR)
- Halogen Free Product

Applications

High Frequency Switching and Synchronous Rectification.

Equivalent Circuit & Pinning



PIN1、 2、 3: S PIN4: G PIN5、 6、 7、 8: D

Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	100	V
Drain Current - Continuous	I_D	62.5	A
Drain Current – Pulsed	I_{DM}	161	A
Gate-Source Voltage	V_{GS}	±20	V
Power Dissipation	$P_D(T_c=25^\circ C)$	78	W
Single Pulse Avalanche Energy(L=0.5mH)	E_{AS}	101	mJ
Avalanche Current(L=0.5mH)	I_{AS}	17	A
Junction and Storage Temperature Range	T_j, T_{stg}	-55 to 150	°C
Thermal resistance, junction - ambient	t ≤ 10s	25	°C/W
	Steady-State	55	
Thermal resistance, junction - case	Steady-State	1.6	

Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D=250\mu A, V_{GS}=0V$	100	109		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=100V, V_{GS}=0V$			1.0	uA
Gate-Body leakage current	I_{GSS}	$V_{DS}=0V, V_{GS}= \pm 20V$			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	2	3.1	4	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=20A$		8.9	10	mΩ
Input Capacitance	C_{iss}	$V_{DS}=25V, V_{GS}=0V, f=1.0MHz$		1950		pF
Output Capacitance	C_{oss}			960		
Reverse Transfer Capacitance	C_{rss}			108		
Gate resistance	R_g	$V_{GS}=0V, V_{DS}=0V, f=1MHz$		3.2		Ω
Total Gate Charge	Q_g	$V_{GS}=10V, V_{DS}=50V, I_D=20A$		25		nC
Gate Source Charge	Q_{gs}			6		
Gate Drain Charge	Q_{gd}			3.5		

Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{D(on)}$	$V_{GS}=10V, V_{DS}=50V,$ $R_L=2.5\Omega, R_{GEN}=3\Omega$		8.5		ns
Turn-On Rise Time	t_r			3		
Turn-Off Delay Time	$t_{D(off)}$			23		
Turn-Off Fall Time	t_f			3.5		

Electrical Characteristic Curve

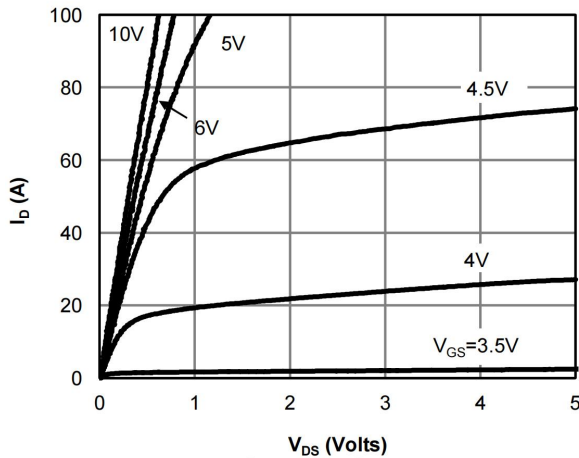


Fig 1: On-Region Characteristics

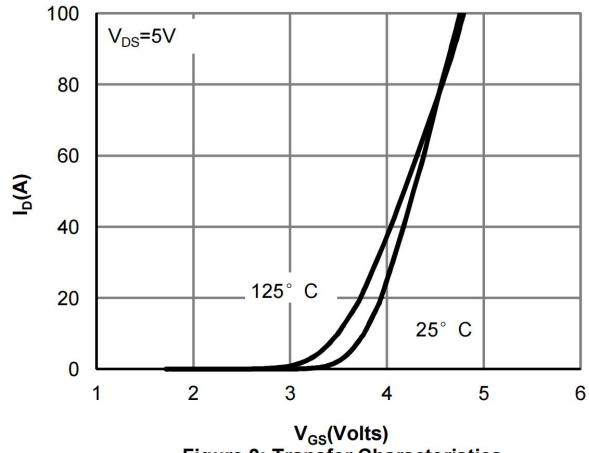


Figure 2: Transfer Characteristics

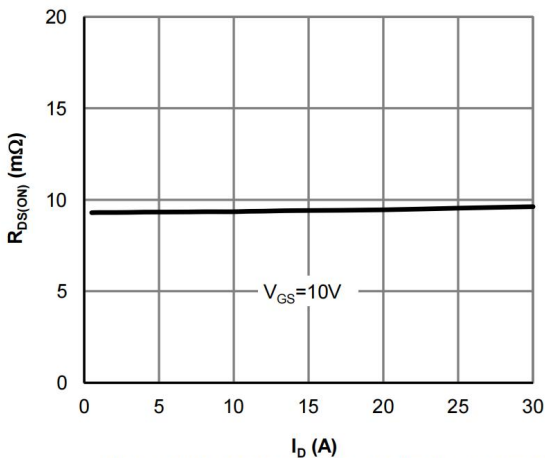


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

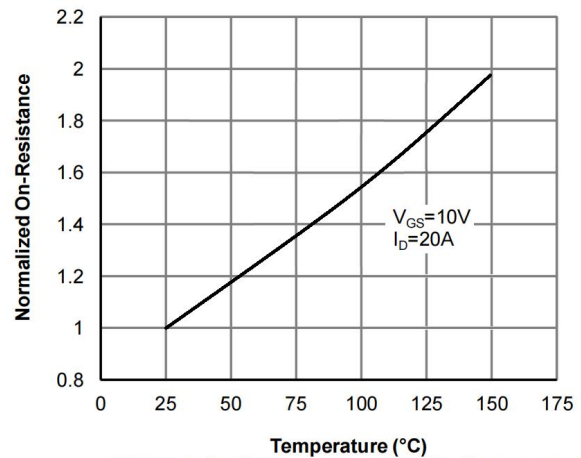


Figure 4: On-Resistance vs. Junction Temperature

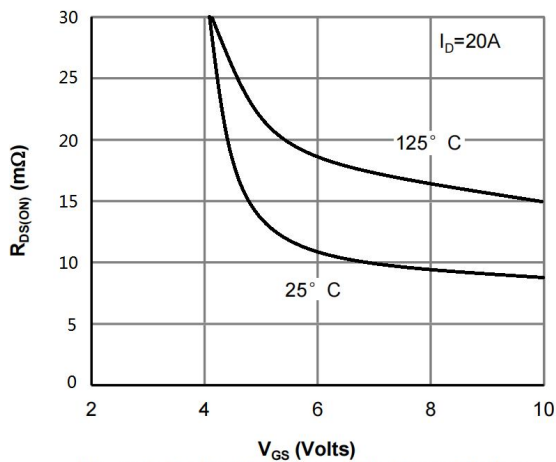


Figure 5: On-Resistance vs. Gate-Source Voltage

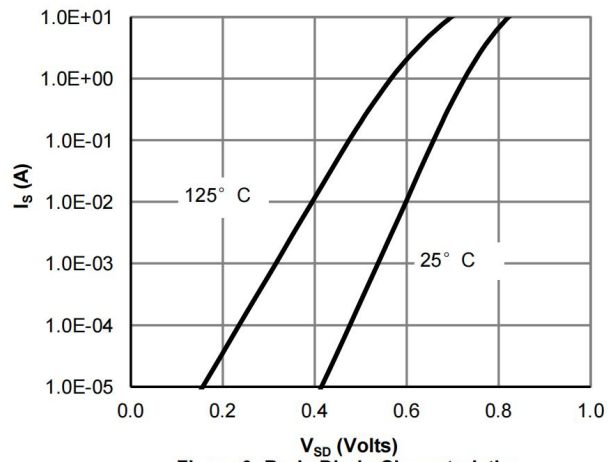


Figure 6: Body-Diode Characteristics

Electrical Characteristic Curve

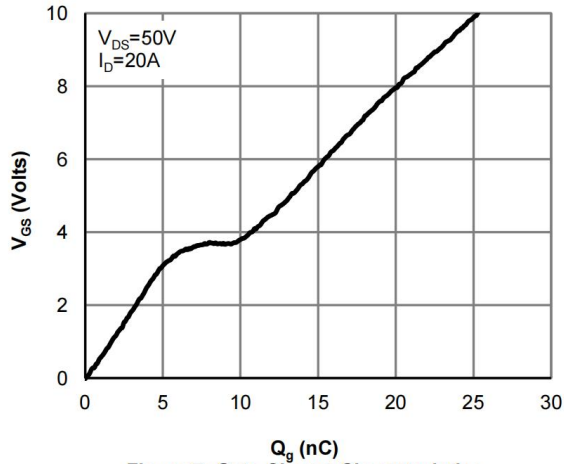


Figure 7: Gate-Charge Characteristics

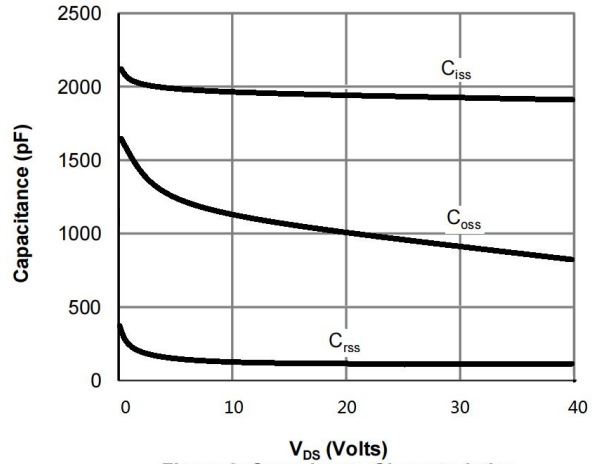


Figure 8: Capacitance Characteristics

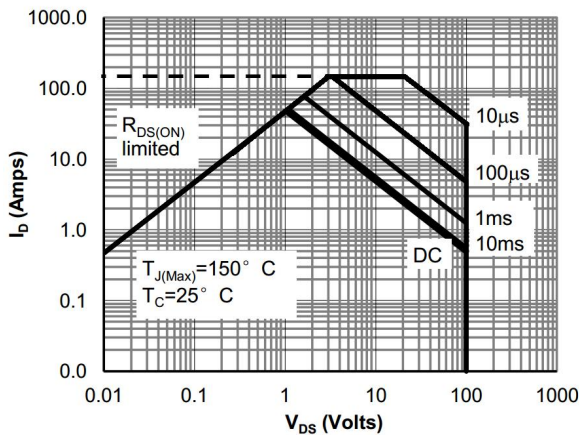


Figure 9: Maximum Forward Biased Safe Operating Area

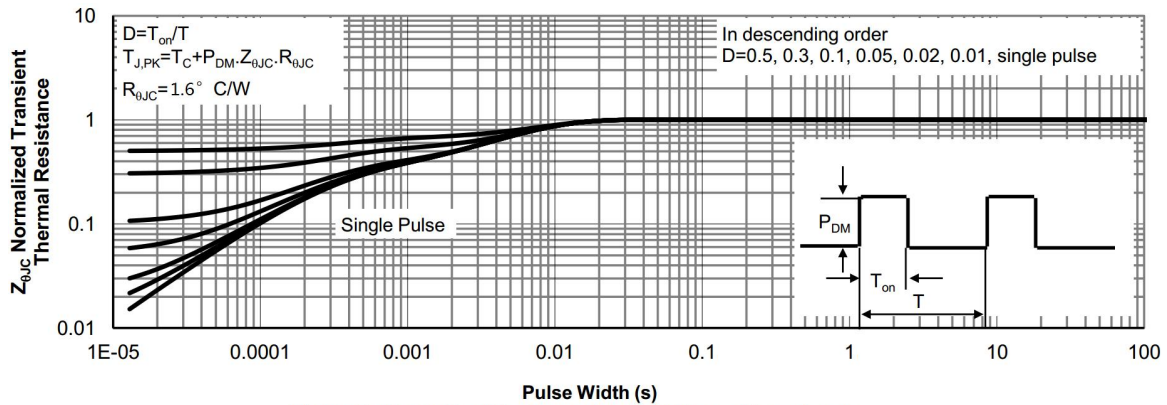
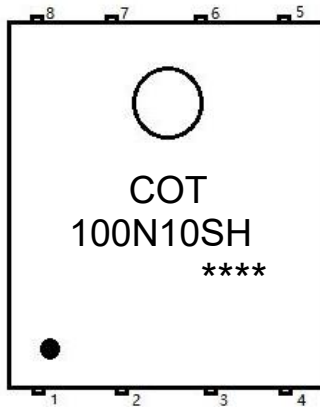


Figure 10: Normalized Maximum Transient Thermal Impedance

Marking Instructions



- Note:
- COT: Company Code.
 - 100N10SH: Product Type.
 - ****: Lot No. Code, code change with Lot No.

Packaging SPEC

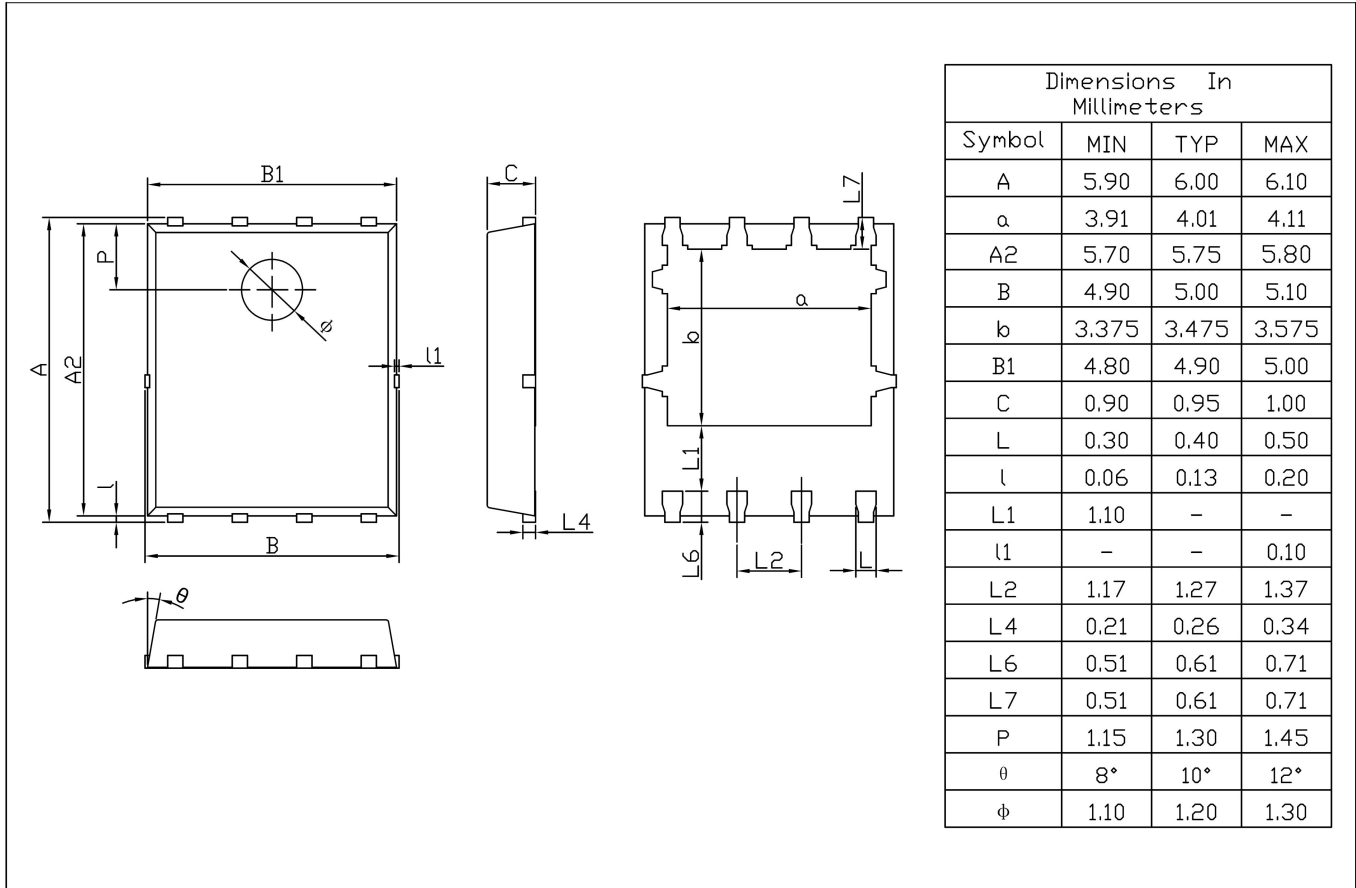
REEL

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
PDFN5×6	5000	2	10000	6	60000	13" × 12	360 × 360 × 50	380 × 335 × 366

Package Outline Dimensions

PDFN5x6

Unit:mm



Rev.01 202209