

Descriptions

This is Dual N-CHANNEL MOSFET in a PDFN5×6A Plastic Package.

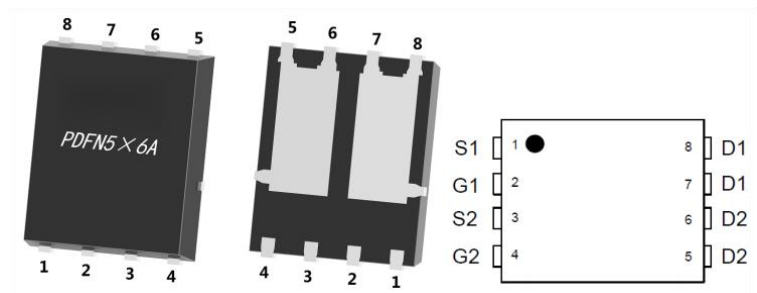
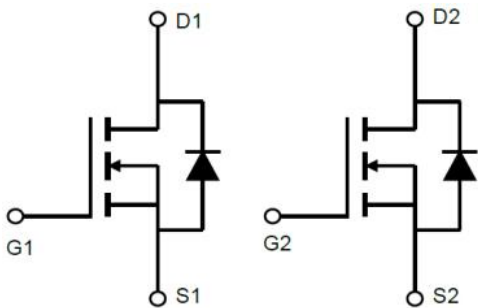
Features

- Dual N-Ch
- $V_{DS}(V)=60V$ $I_D=24.5A$
- $R_{DS(ON)}<13m\Omega(V_{GS}=10V)$
- $R_{DS(ON)}<18m\Omega(V_{GS}=4.5V)$
- HF Product.

Applications

- PWM Application
- Load Switch
- Power Management
- Dimming LED.

Equivalent Circuit & Pinning



Marking

See Marking Instructions.

Absolute Maximum Ratings(Ta=25°C)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	60	V
Drain Current		$I_D(T_c=25^{\circ}\text{C})$	24.5	A
Drain Current - Pulsed		I_{DM}	95	A
Gate-Source Voltage		V_{GS}	± 20	V
Single Pulsed Avalanche Energy		E_{AS}	70	mJ
Avalanche Current		I_{AS}	20	A
Power Dissipation		$P_D(T_c=25^{\circ}\text{C})$	12.5	W
Operating and Storage Temperature Range		T_J, T_{stg}	-55 to 150	$^{\circ}\text{C}$
Junction-to-Ambient	$t \leq 10$	$R_{\theta JA}$	35	$^{\circ}\text{C/W}$
Junction-to-Ambient	Steady-State		70	
Junction-to-Case	Steady-State	$R_{\theta JC}$	10	

Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DS}	$V_{GS}=0V$	$I_D=250\mu A$	60	64		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60V$	$V_{GS}=0V$			1	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20V$	$V_{DS}=0V$			± 0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$	$I_D=250\mu A$	1.0	1.6	2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$	$I_D=20A$		11.5	13	m Ω
		$V_{GS}=4.5V$	$I_D=10A$		15.5	18	m Ω
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$	$I_S=1A$			1.2	V
Input Capacitance	C_{iss}	$V_{DS}=25V$ $f=1.0MHz$ $V_{GS}=0V$			1010		pF
Output Capacitance	C_{oss}				250		
Reverse Transfer Capacitance	C_{rss}				280		
Gate resistance	R_g	$V_{GS}=0V$ $f=1MHz$	$V_{DS}=0V$		2.3		Ω
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10V$ $I_D=13A$ $V_{DS}=30V$			13.5		nC
Total Gate Charge	$Q_{g(4.5V)}$				6.5		
Gate Source Charge	Q_{gs}				2.5		
Gate Drain Charge	Q_{gd}				3.0		

Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=30V$ $R_L=2.3\Omega$ $R_{GEN}=3\Omega$		5		ns
Turn-On Rise Time	t_r			3		
Turn-Off Delay Time	$t_{d(off)}$			19		
Turn-Off Fall Time	t_f			3		

Electrical Characteristic Curve

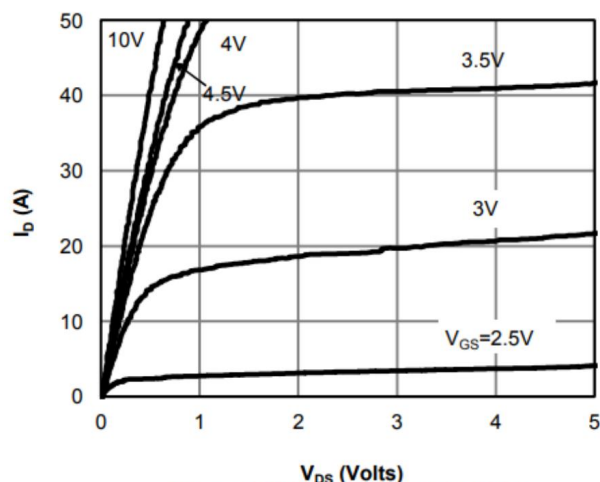


Figure 1: On-Region Characteristics

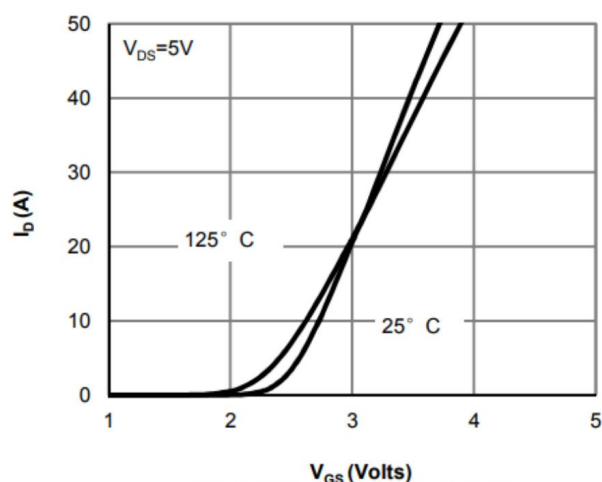


Figure 2: Transfer Characteristics

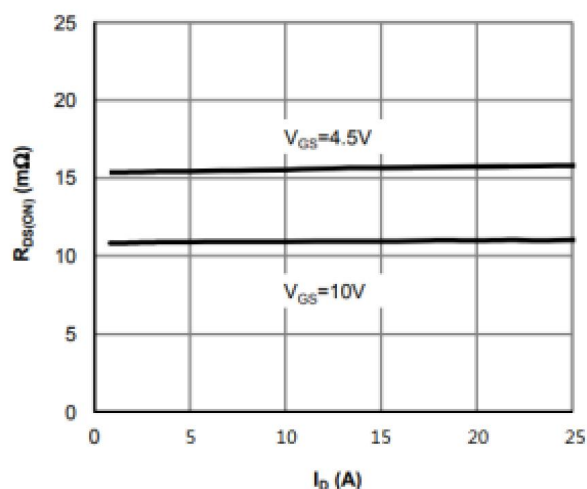


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

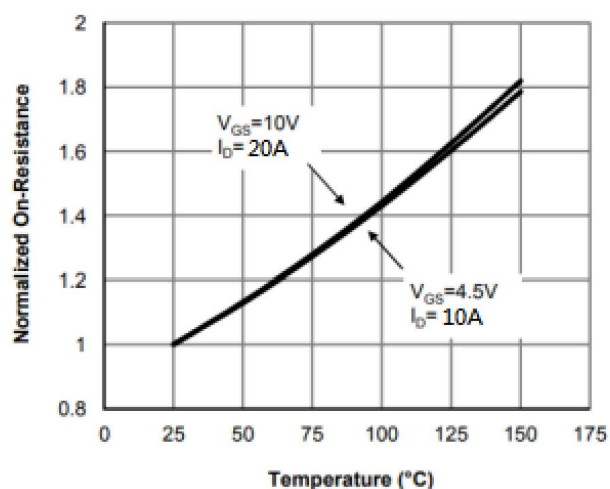


Figure 4: On-Resistance vs. Junction Temperature

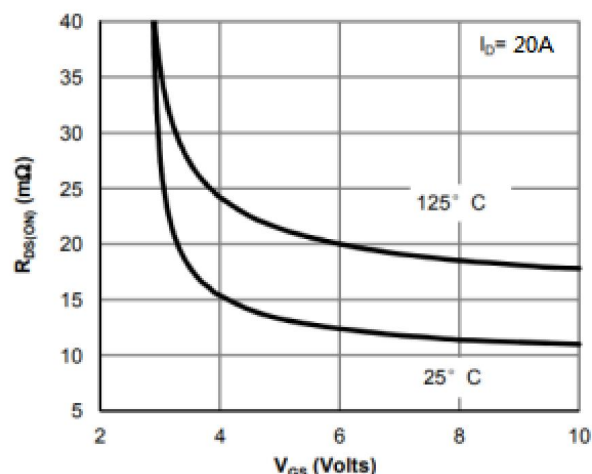


Figure 5: On-Resistance vs. Gate-Source Voltage

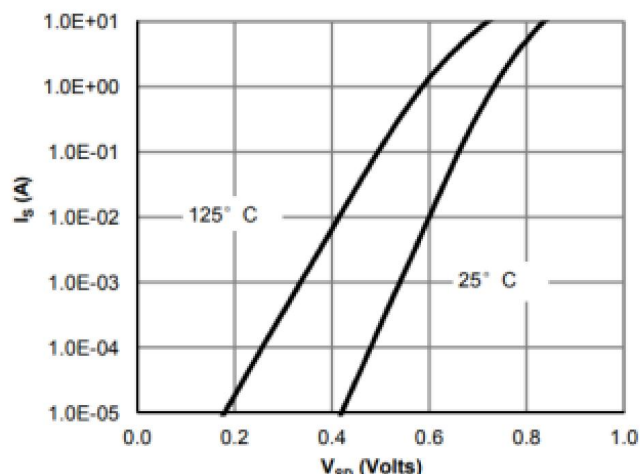
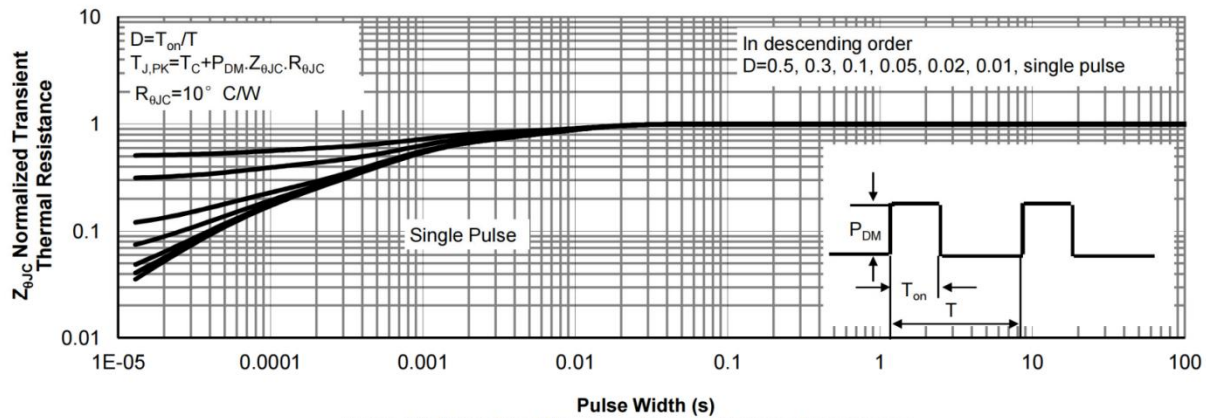
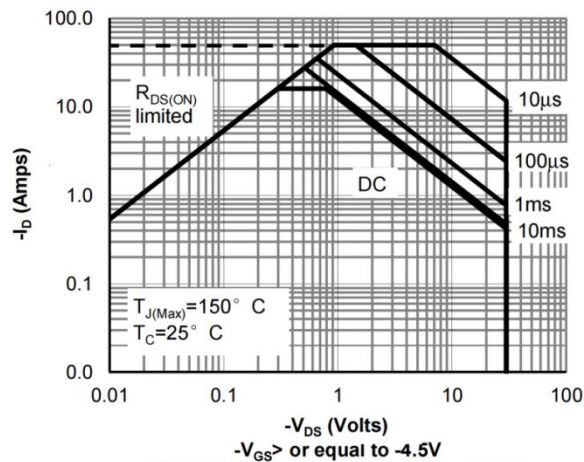
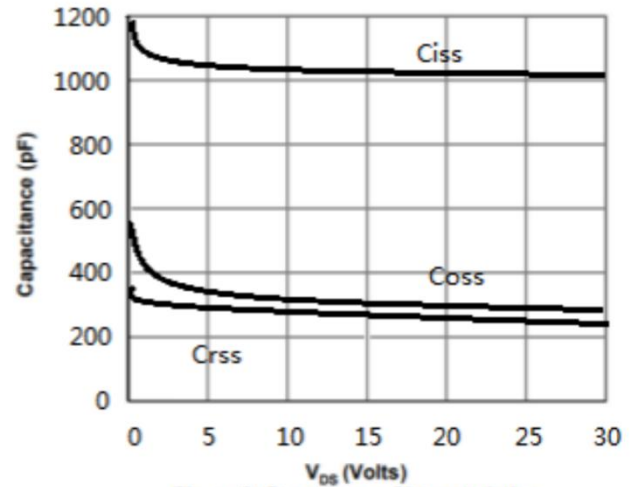
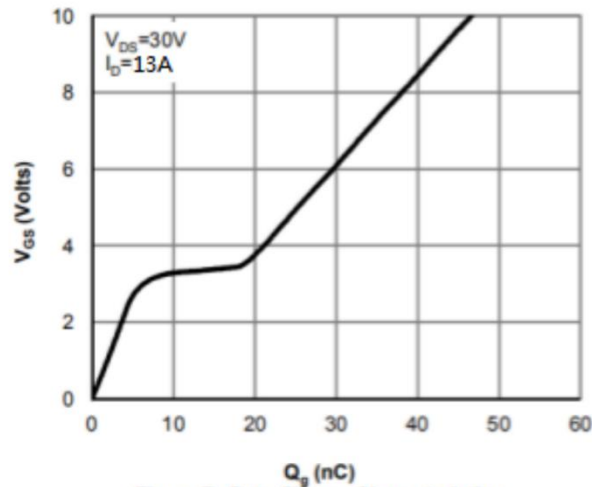
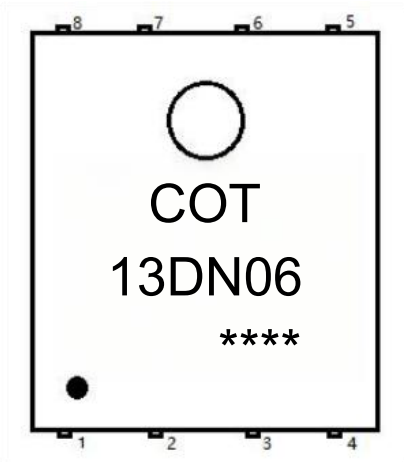


Figure 6: Body-Diode Characteristics

Electrical Characteristic Curve



Marking Instructions



Note :

COT :

13DN06 :

****:

Company Code

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

Package Outline Dimensions

PDFN5 X6A

Unit:mm

