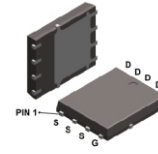


CMS05P06H8-HF

P-Channel
RoHS Device
Halogen Free

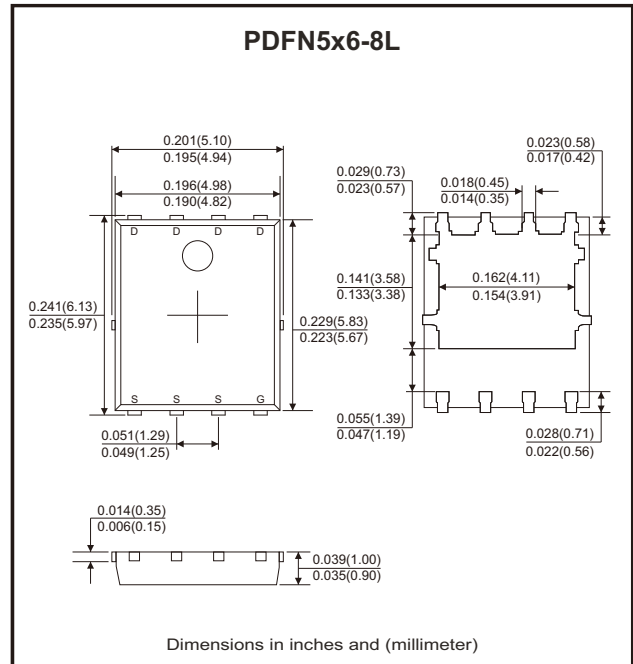


Features

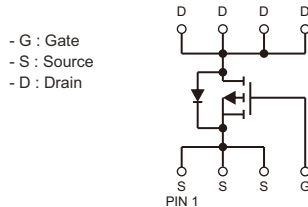
- Low RDS(ON).

Mechanical data

- Case: PDFN5x6-8L, molded plastic.
- Molding compound: UL flammability classification rating 94V-0.
- Terminals: Matte tin plated leads, solderable per MIL-STD-202, method 208.



Circuit Diagram



Maximum Ratings (at TA=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-source voltage	V _{DSS}	-60	V
Gate-source voltage	V _{GSS}	±20	V
Continuous drain current (V _{GS} =-10V)	I _D	-5.7	A
Continuous drain current (V _{GS} =-10V, T _A =70°C)	I _D	-4.5	
Pulsed drain current (10µs pulse, duty cycle=1%)	I _{DM}	-45	A
Power dissipation	P _D	2.4	W
Thermal resistance junction to case (Note 2)	R _{θJC}	2.4	°C/W
Thermal resistance junction to air (Note 1)	R _{θJA}	52	°C/W
Operating junction temperature range	T _J	-55 to +150	°C
Storage temperature range	T _{STG}	-55 to +150	°C

Electrical Characteristics (at $T_c=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	V_{DSS}	$V_{GS} = 0V, I_D = -250\mu A$	-60			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = -48V, V_{GS} = 0V$			-1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 100	nA
On Characteristics (Note 3)						
Static drain-source on-resistance	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -5A$			50	m Ω
Static drain-source on-resistance	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -4A$			70	m Ω
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1		-3	V
Dynamic Characteristics						
Input capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = -30V, f = 1MHz$		3129		pF
Output capacitance	C_{oss}			173		
Reverse transfer capacitance	C_{rss}			162.6		
Switching Characteristics						
Turn-on delay time	$t_{d(on)}$	$V_{DD} = -30V, V_{GS} = -10V, R_G = 3\Omega$		13		ns
Turn-on rise time	t_r			17		
Turn-off delay time	$t_{d(off)}$			50		
Turn-off fall time	t_f			20		
Total gate charge	Q_g	$V_{DD} = -30V, I_D = -15A, V_{GS} = -10V$		53		nC
Gate to source charge	Q_{gs}			15		
Gate to drain (miller) charge	Q_{gd}			13		
Source-Drain Diode Characteristics						
Diode forward voltage	V_{SD}	$I_{SD} = -15A, V_{GS} = 0V$			-1.2	V

Notes: 1. Device mounted on FR-4 substrate PC board, 2oz copper, with 1inch square copper plate.

2. Thermal resistance from junction to soldering point (on the exposed drain pad).

3. The data tested by pulsed, pulse width $\leq 380\mu s$, duty cycle $\leq 2\%$.

Rating and Characteristic Curves (CMS05P06H8-HF)

Fig.1 - Typical Output Characteristics

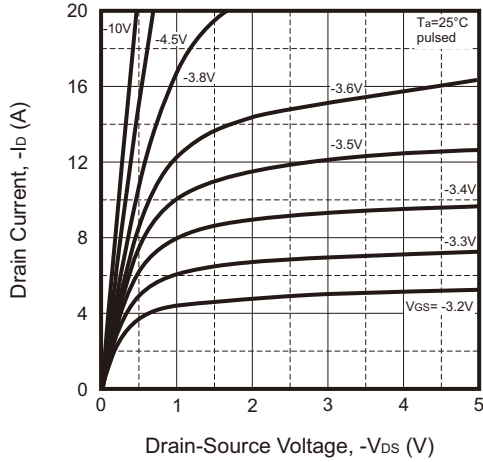


Fig.2 - On-Resistance vs. Continuous Drain Current

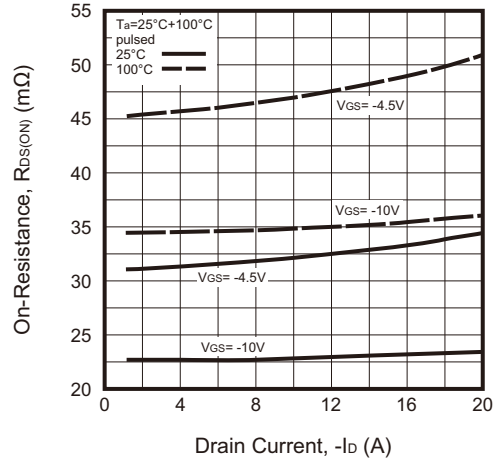


Fig.3 - On-Resistance vs. Gate-Source Voltage

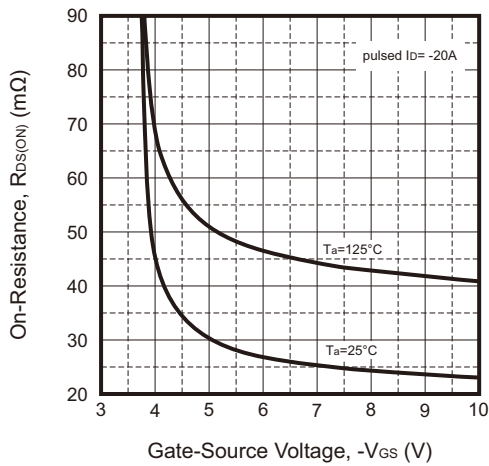


Fig.4 - Body-Diode Characteristics

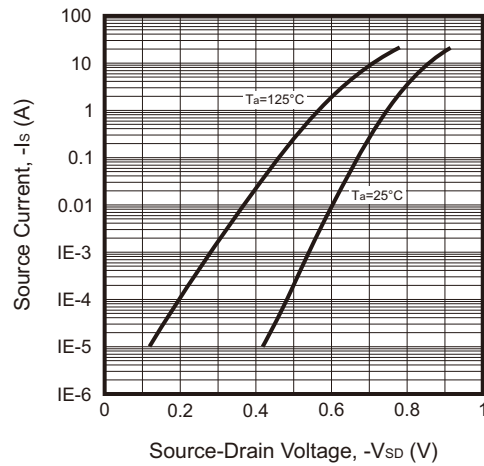


Fig.5 - Gate Threshold Voltage vs. Junction Temperature

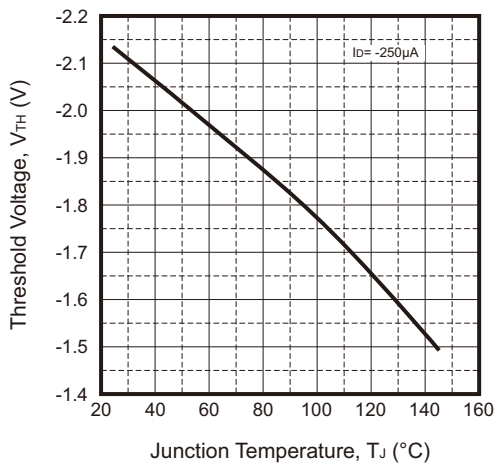
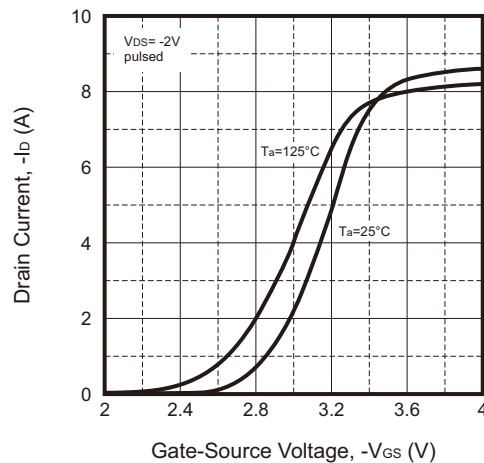
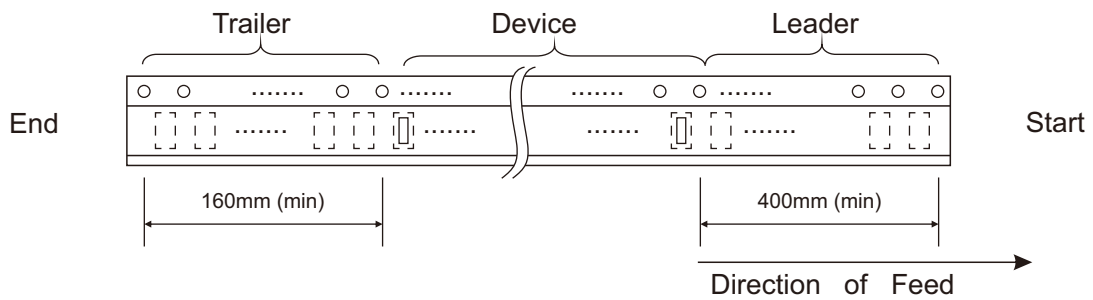
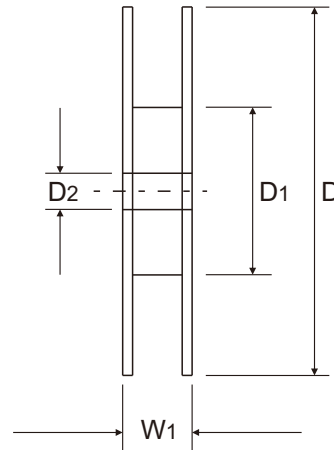
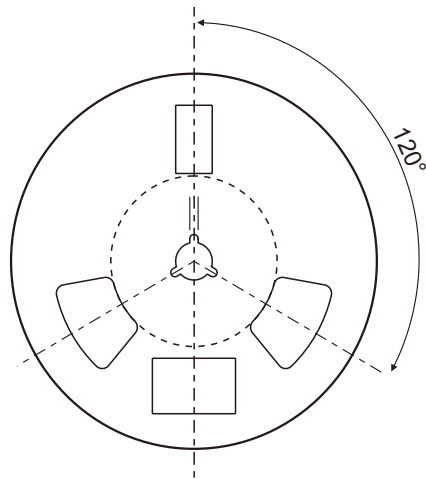
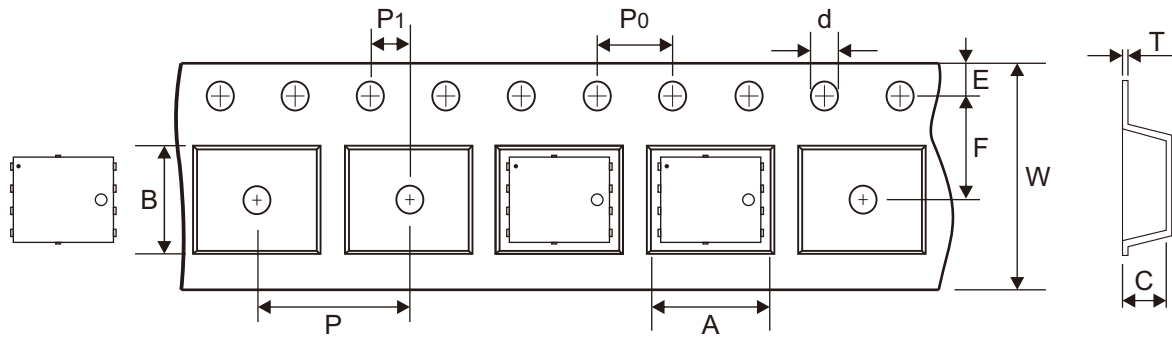


Fig.6 - Transfer Characteristics



Reel Taping Specification

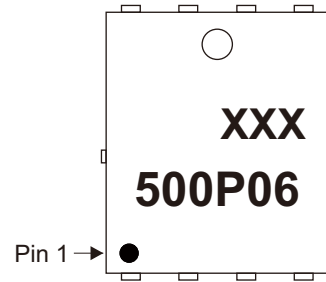


PDFN5x6-8L	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	6.30 ± 0.10	5.30 ± 0.10	1.20 ± 0.10	1.55 + 0.01	330 ± 1.00	100 ± 1.00	13.00 ± 0.20
	(inch)	0.248 ± 0.004	0.209 ± 0.004	0.047 ± 0.004	0.061 + 0.0004	12.992 ± 0.039	3.937 ± 0.039	0.512 ± 0.008

PDFN5x6-8L	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	5.50 ± 0.10	8.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.25 ± 0.03	12.00 + 0.30 - 0.10	17.80 ± 0.30
	(inch)	0.069 ± 0.004	0.217 ± 0.004	0.315 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.010 ± 0.001	0.472 + 0.012 - 0.004	0.701 ± 0.012

Marking Code

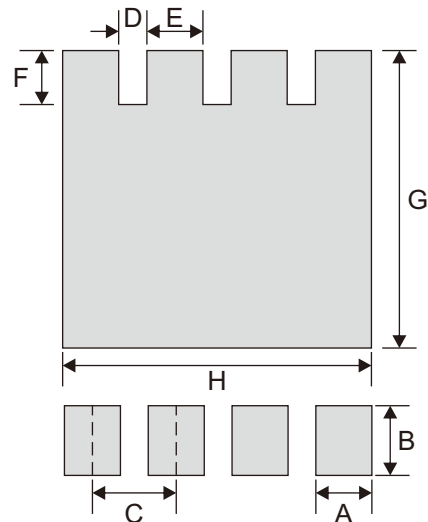
Part Number	Marking Code
CMS05P06H8-HF	500P06



XXX = Control code

Suggested P.C.B. PAD Layout

SIZE	PDFN5x6-8L	
	(mm)	(inch)
A	0.80	0.031
B	1.00	0.039
C	1.27	0.050
D	0.47	0.019
E	0.80	0.031
F	0.85	0.033
G	4.50	0.177
H	4.60	0.181



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
PDFN5x6-8L	5,000	13