

Descriptions

This -30V,-34A P-Channel Enhancement Mode Field Effect Transistor in a PDFN 3×3A-8L Plastic Package.

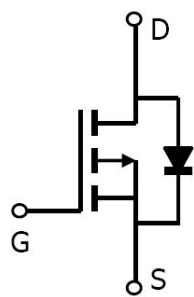
Features

- VDS (V) = -30V
- ID =-34 A (VGS = ±20V)
- RDS(ON)@10V≤14mR(Typ.12.8mR)
- Halogen-Free Product

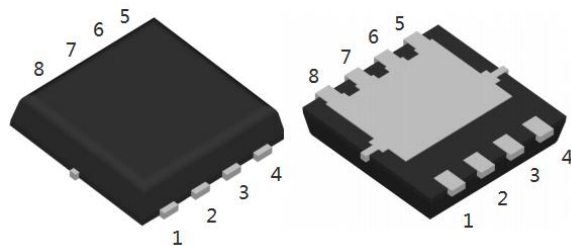
Applications

These devices are well suited for high efficiency switching DC/DC converters and switch mode power supplies

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}	-30	V
Drain Current		$I_D(T_C=25^{\circ}\text{C})$	-34	A
Drain Current - Pulsed		I_{DM}	-80	A
Gate-Source Voltage		V_{GS}	± 20	V
Single Pulsed Avalanche Energy		E_{AS}	210	mJ
Avalanche Current		I_{AS}	-20	A
Power Dissipation		$P_D(T_C=25^{\circ}\text{C})$	29	W
Operating and Storage Temperature Range		T_J, T_{stg}	-55 to 150	$^{\circ}\text{C}$
Junction-to-Ambient	$t \leq 10$	$R_{\theta JA}$	40	$^{\circ}\text{C/W}$
Junction-to-Ambient	Steady-State		75	
Junction-to-Case	Steady-State	$R_{\theta JC}$	4.2	

Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D = -250\mu A$ $V_{GS} = 0V$	-30			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -30V$ $V_{GS} = 0V$			-1	μA
Gate-Body leakage current	I_{GSS}	$V_{DS} = 0V$ $V_{GS} = \pm 20V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$ $I_D = -250\mu A$	-1	-1.45	-2.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS} = -10V$ $I_D = -20A$		12.8	14	m Ω
		$V_{GS} = -4.5V$ $I_D = -10A$		17.9	20	
Diode Forward Voltage	V_{SD}	$I_S = -1A$ $V_{GS} = 0V$			1.2	V
Gate resistance	R_g	$f = 1MHz$		5		Ω
Input Capacitance	C_{iss}	$V_{GS} = 0V$ $V_{DS} = -25V$ $f = 1MHz$		2300		pF
Output Capacitance	C_{oss}			370		
Reverse Transfer Capacitance	C_{rss}			350		
Total Gate Charge	$Q_{g(10V)}$	$V_{GS} = -10V$ $V_{DS} = -15V$ $I_D = -12A$		21		nC
Total Gate Charge	$Q_{g(4.5V)}$			11		
Gate-Source Charge	Q_{gs}			6		
Gate-Drain Charge	Q_{gd}			3		
Turn-on Delay Time	$t_{d(ON)}$	$V_{GS} = -10V$ $V_{DS} = -15V$ $R_L = 1.3\Omega$ $R_{GEN} = 3\Omega$		10.5		ns
Turn-on Rise Time	t_r			8.5		
Turn-off Delay Time	$t_{d(OFF)}$			30		
Turn-off Fall Time	t_f			11.5		

Electrical Characteristic Curve

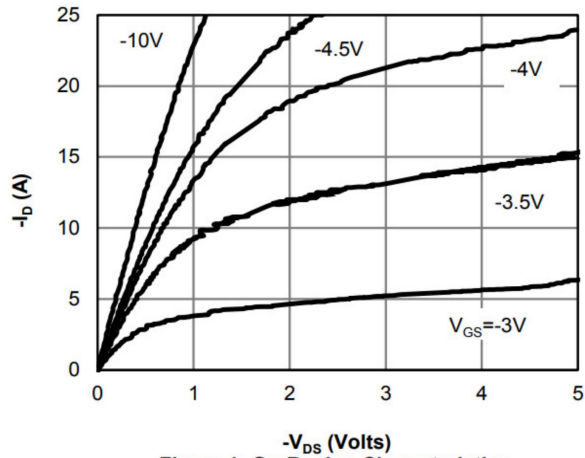


Figure 1: On-Region Characteristics

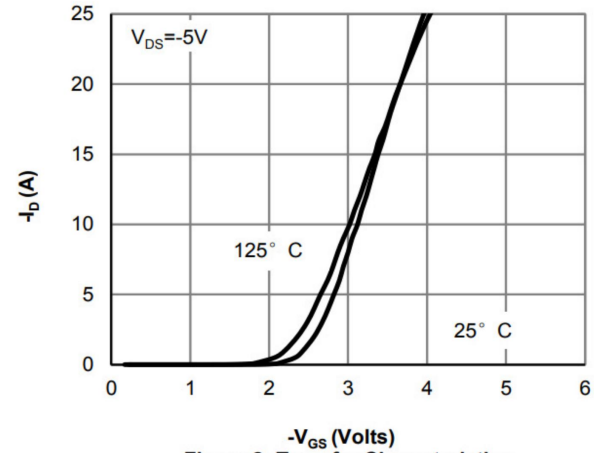


Figure 2: Transfer Characteristics

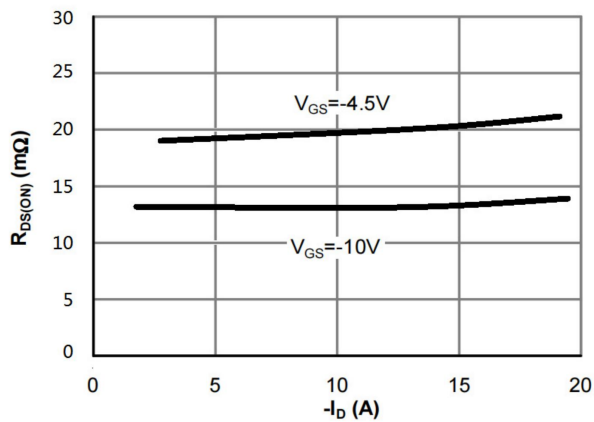


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

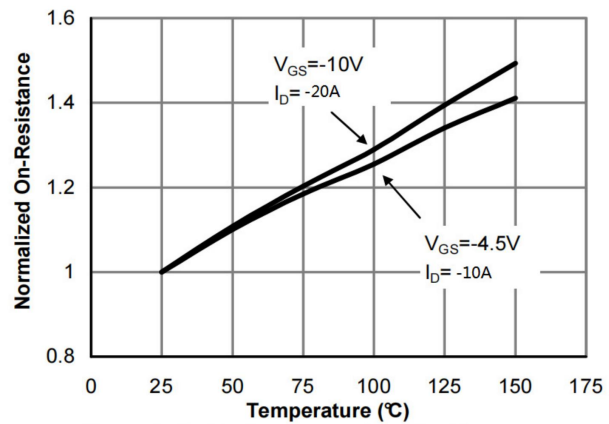


Figure 4: On-Resistance vs. Junction Temperature

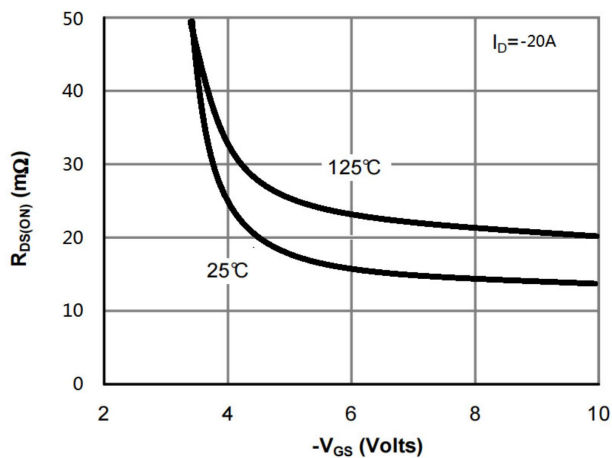


Figure 5: On-Resistance vs. Gate-Source Voltage

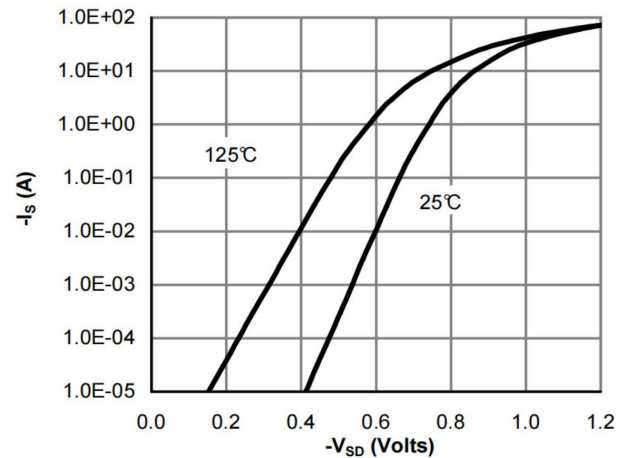
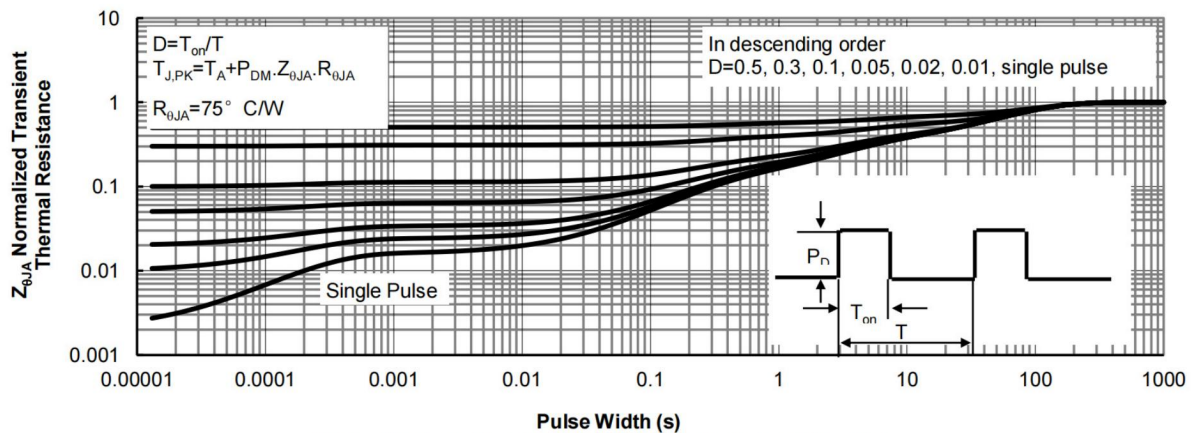
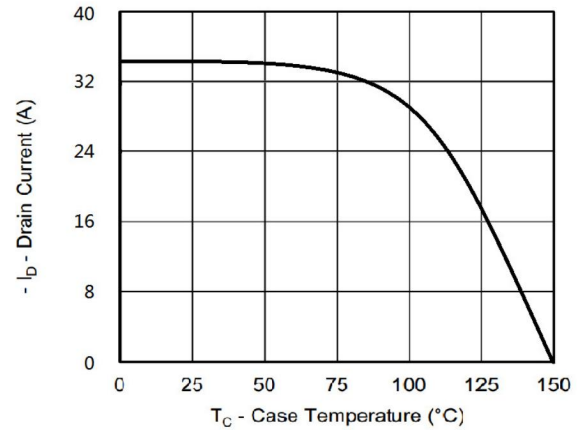
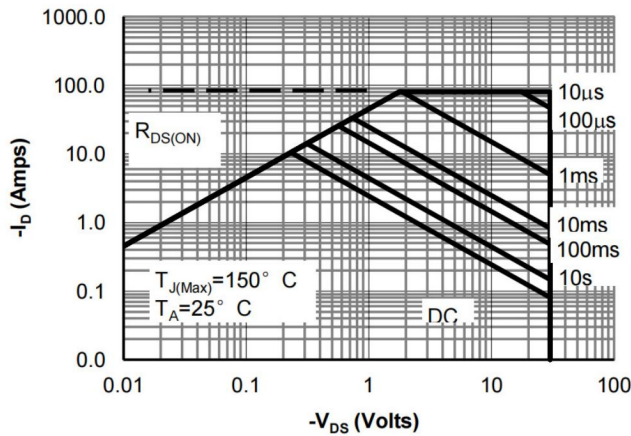
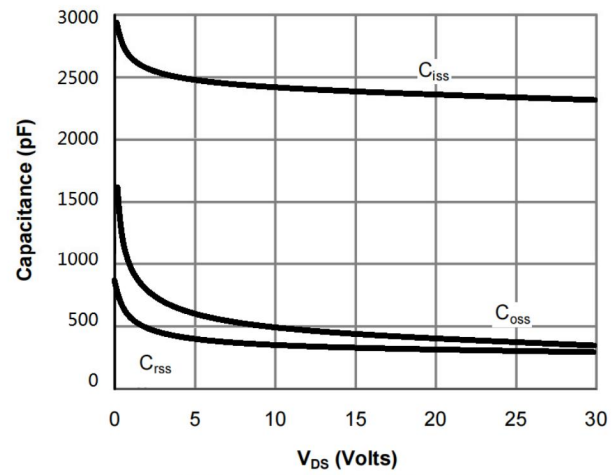
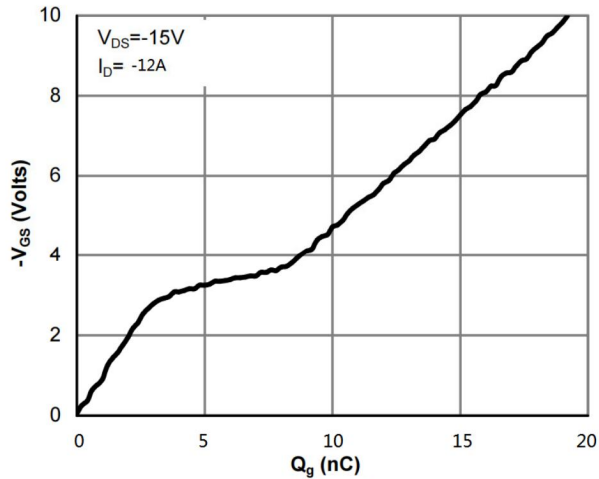
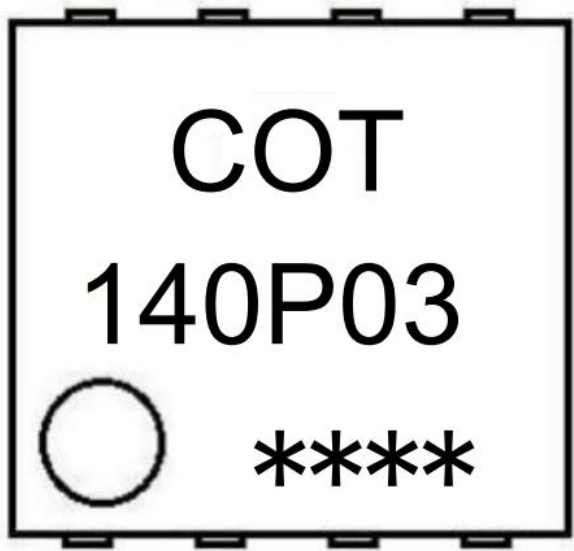


Figure 6: Body-Diode Characteristics

Electrical Characteristic Curve



Marking Instructions



Note:
COT: Company Code.
140P03: Product Type Code.
****: Lot No. Code, code change with Lot No

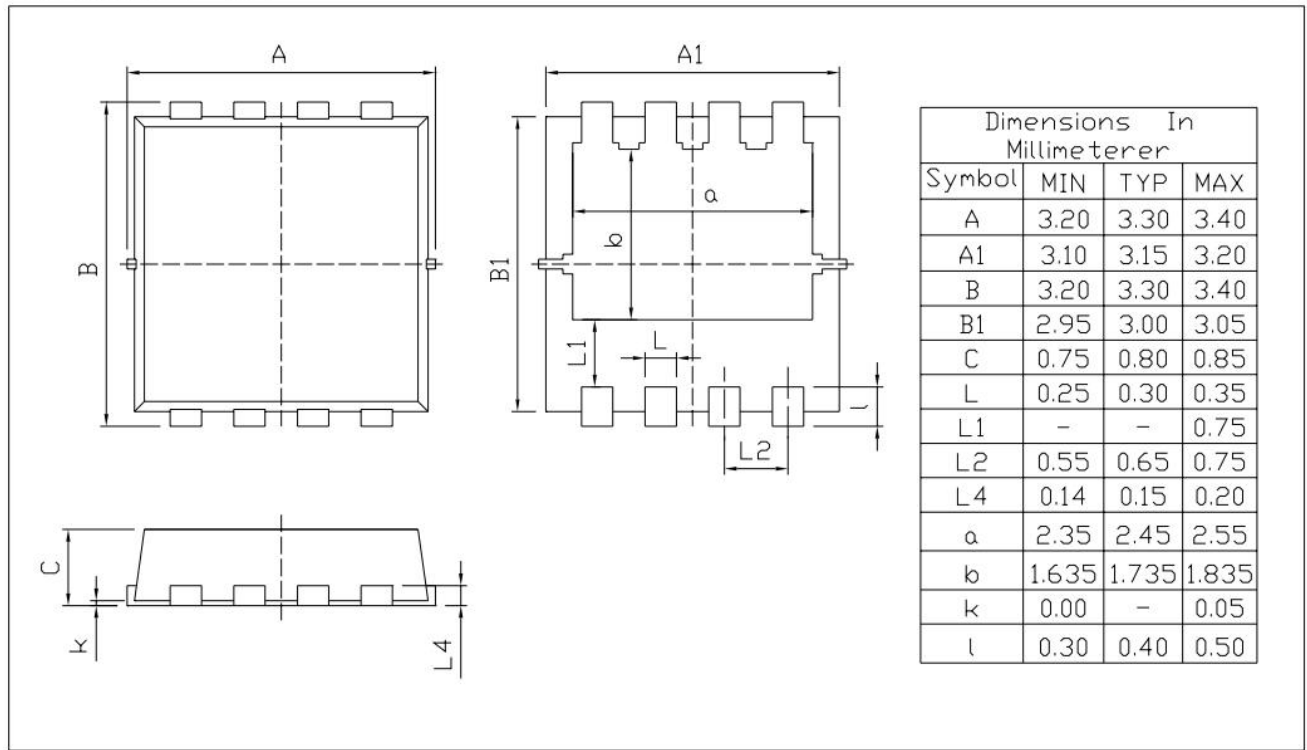
Packaging SPEC

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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