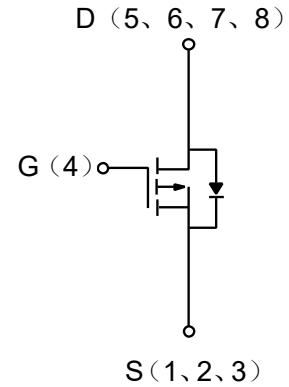


Description

The enhancement mode MOS is extremely high density cell and low on-resistance.

MOSFET Product Summary		
V _{DS} (V)	R _{DS(on)} (mΩ)	I _D (A)
-30	20@ V _{GS} =-10V	-8
	30@ V _{GS} =-4.5V	


Electrical characteristics per line@25 °C (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV _{DSS}	I _D = -250μA, V _{GS} = 0V	-30	-33	-	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} = ±20V	-	-	±100	nA
On CHARACTERISTICS(Note 1)						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-1	-1.8	-3	V
Static Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} = -10V, I _D = -8A	-	20	25	mΩ
		V _{GS} = -4.5V, I _D = -6A	-	30	40	mΩ
Forward Transconductance	g _{FS}	V _{DS} = -15V, I _D = -9.1A	10	-	-	S
DYNAMIC PARAMETERS(Note 2)						
Input Capacitance	C _{ISS}	V _{GS} = 0V, V _{DS} = -15V, f = 1.0MHz	-	1600	-	pF
Output Capacitance	C _{DSS}		-	350	-	pF
Reverse Transfer Capacitance	C _{RSS}		-	300	-	pF
SWITCHING PARAMETERS(Note 2)						
Turn-On Delay Time	t _{d(on)}	V _{DD} = -15V, V _{GS} = -10V, I _D = -1A, R _{GEN} = 6Ω	-	10	-	ns
Turn-On Rise Time	t _r		-	15	-	ns
Turn-Off Delay Time	t _{d(off)}		-	110	-	ns
Turn-Off Fall Time	t _f		-	70	-	ns
Total Gate Charge	Q _g	V _{DS} = -15V, V _{GS} = -10V, I _D = -9.1A	-	30	-	nC
Gate-Source Charge	Q _{gs}		-	5.5	-	nC
Gate-Drain Charge	Q _{gd}		-	8	-	nC
Drain-Source Diode Characteristics						
Diode Forward Voltage (Note 1)	V _{SD}	V _{GS} = 0V, I _S = -2.1A	-	-	-1.2	V

Absolute maximum rating@25°C

Rating		Symbol	Value	Units
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	± 20	V
Continuous Drain Current ($T_J = 150^\circ\text{C}$)	$T_C = 25^\circ\text{C}$	I_D	-8	A
	$T_C = 70^\circ\text{C}$		-6.5	
	$T_A = 25^\circ\text{C}$		-7	
	$T_A = 70^\circ\text{C}$		-6	
Drain Current-Pulsed (Note 3)		I_{DM}	-40	A
Maximum Power Dissipation		P_D	3.1	W
Operating Junction and Storage Temperature Range		T_J, T_{STG}	-55 To 150	$^\circ\text{C}$

Thermal Characteristic

Thermal Resistance, Junction-to-Ambient (Note 4)	$R_{\theta JA}$	40	$^\circ\text{C/W}$
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Notes:

1. Pulse Test: Pulse Width $\leq 300 \mu\text{s}$, Duty Cycle $\leq 2\%$
2. Guaranteed by design, not subject to production
3. Repetitive Rating: Pulse width limited by maximum junction temperature.
4. Surface Mounted on FR4 Board, $t \leq 10 \text{ sec}$

Typical Characteristics

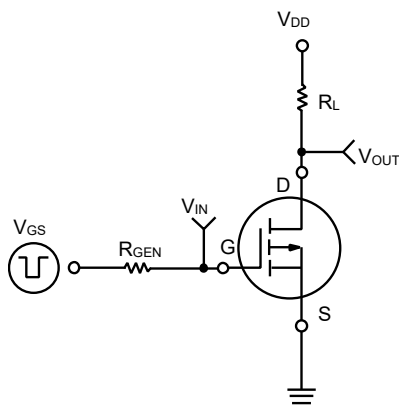


Figure 1. Switching Test Circuit

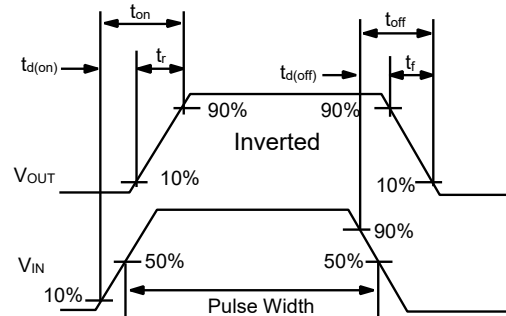


Figure 2. Switching Waveforms

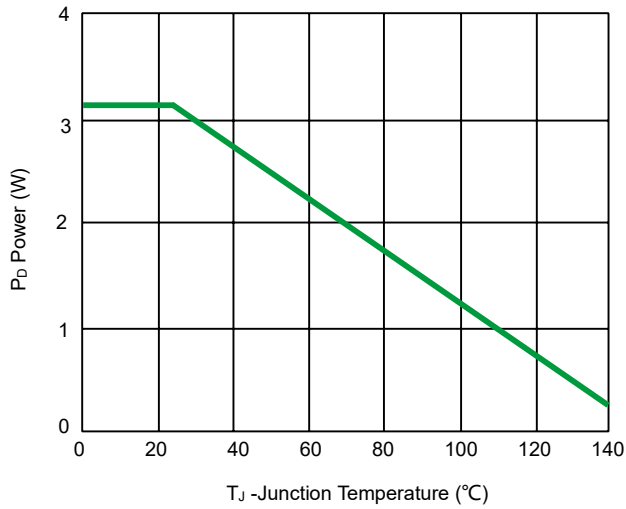


Fig 3. Power Dissipation

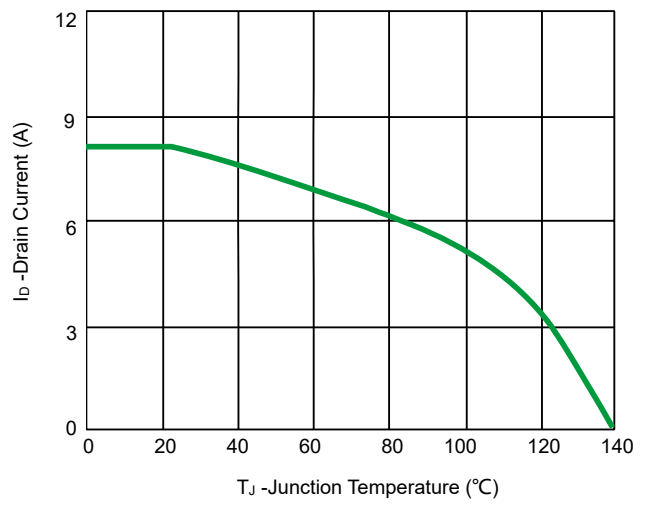


Fig 4. Drain Current

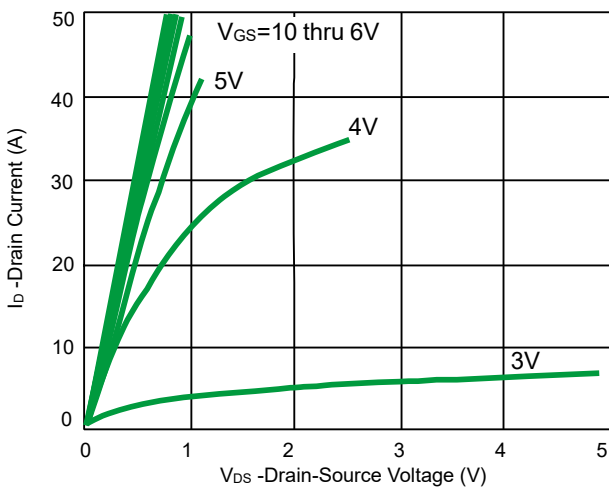


Fig 5. Output Characteristics

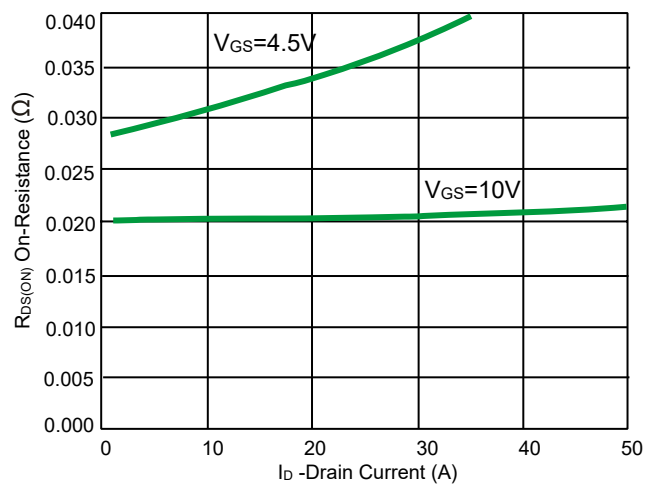


Fig 6. Drain-Source On-Resistance

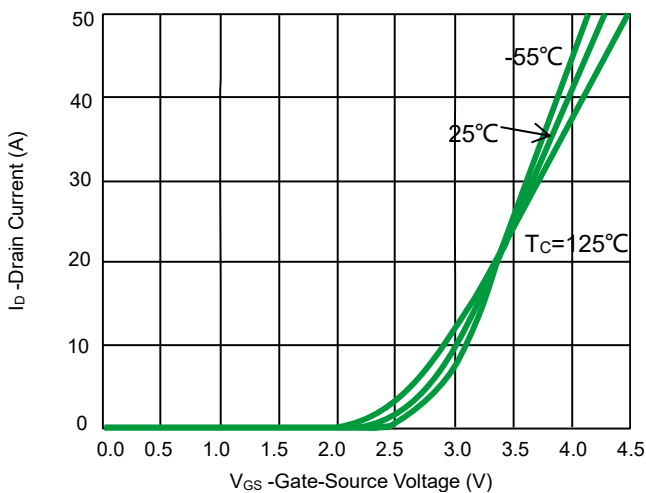


Fig 7. Transfer Characteristics

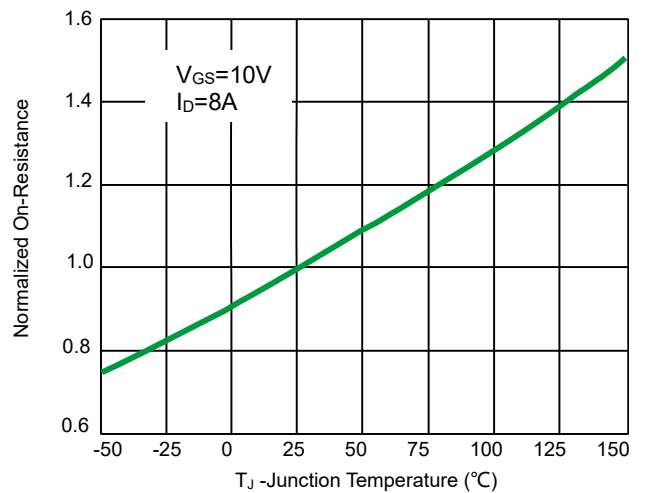


Fig 8. Drain-Source On-Resistance

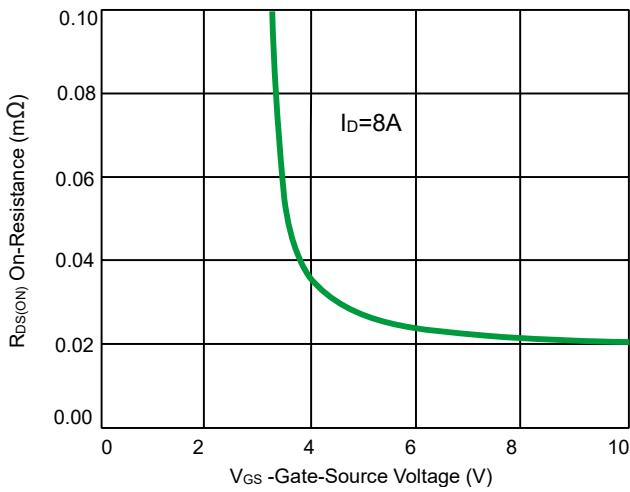


Fig 9. $R_{DS(ON)}$ vs. V_{GS}

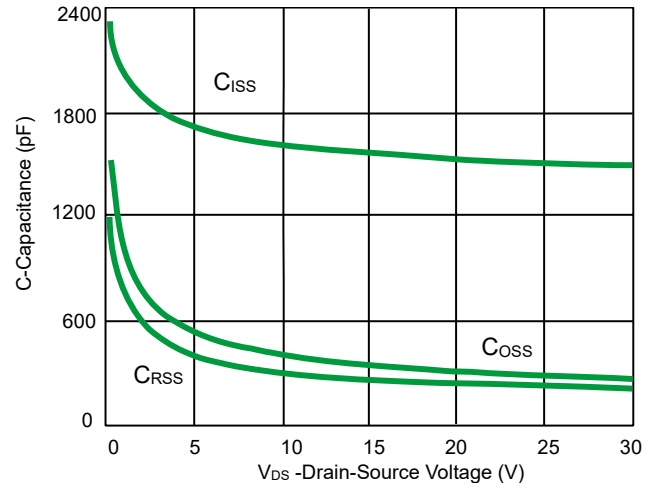


Fig 10. Capacitance vs. V_{DS}

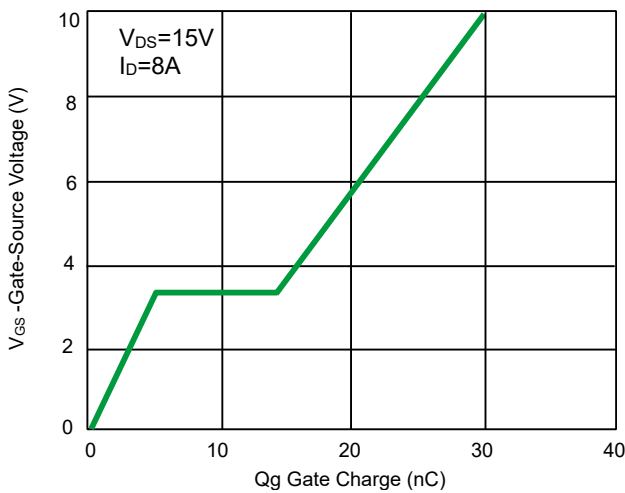


Fig 11. Gate Charge

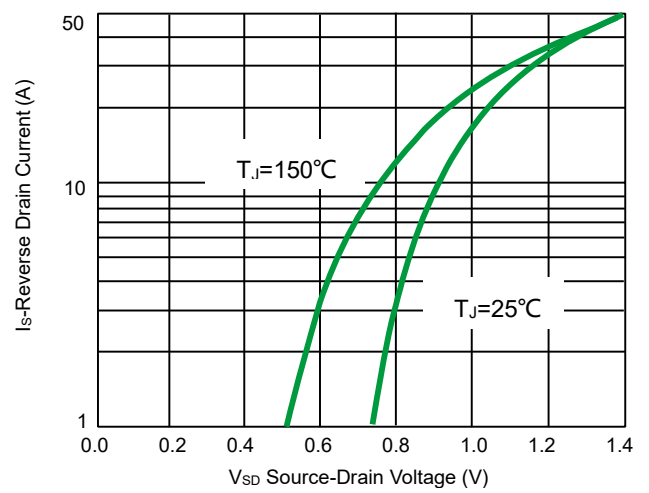


Fig 12. Source-Drain Diode Forward

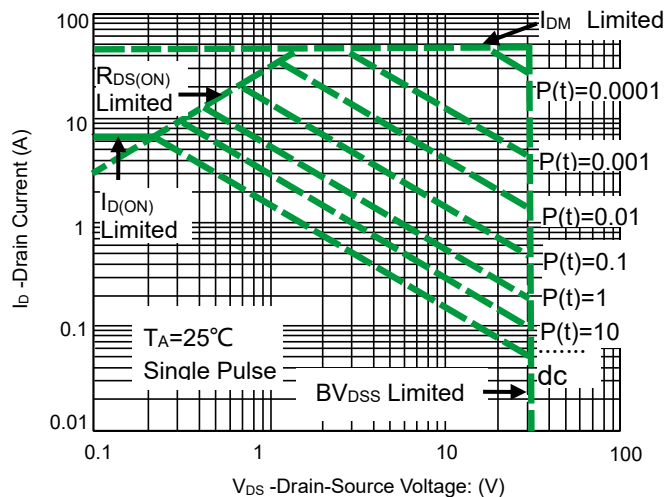


Figure 13. Safe Operation Area

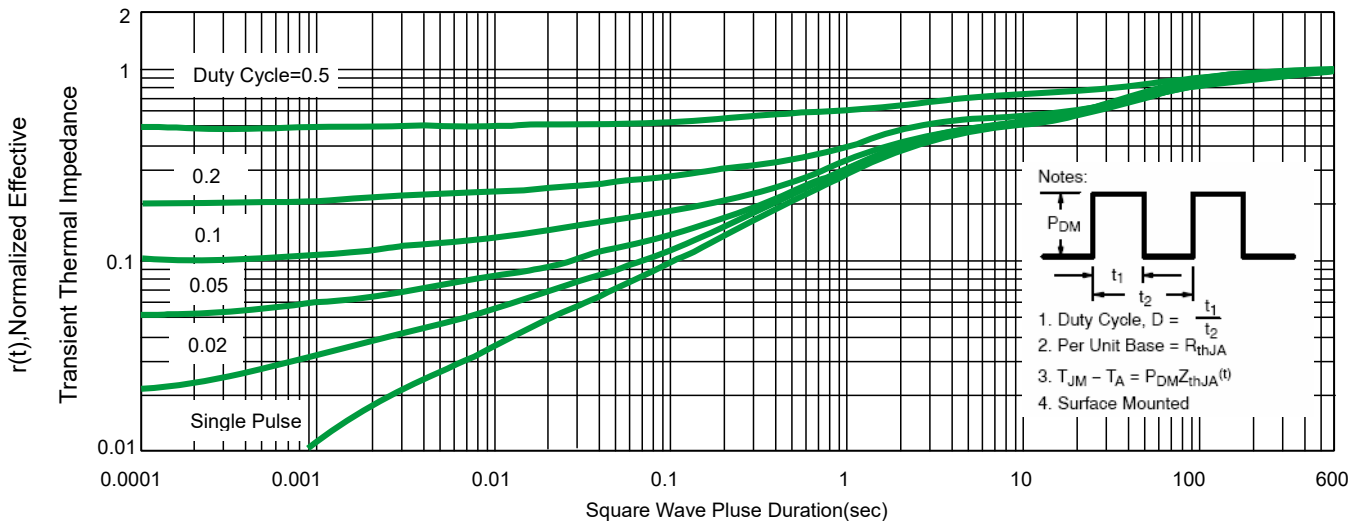
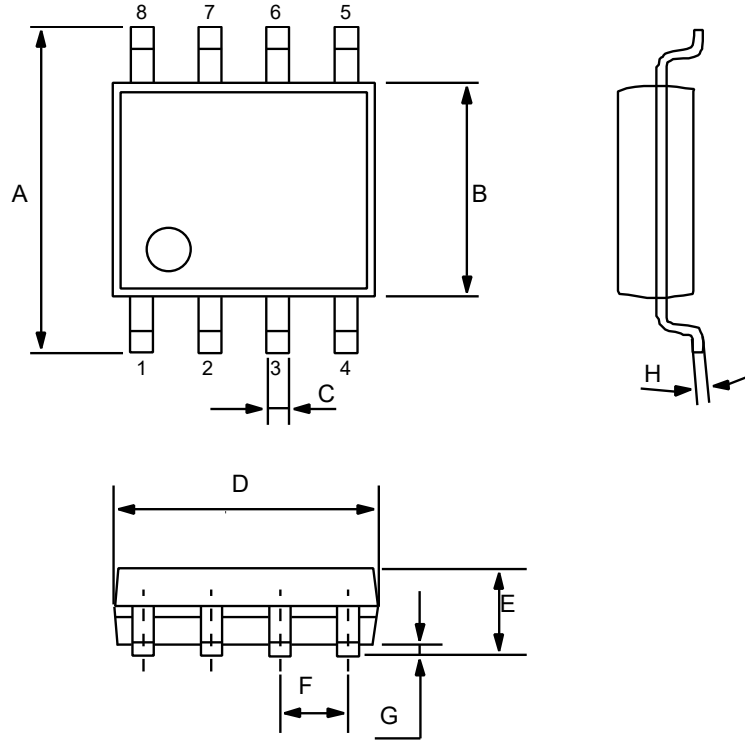


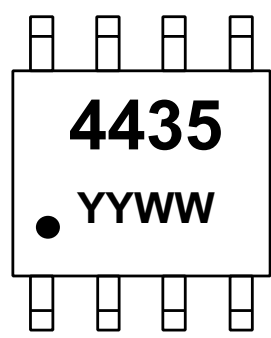
Figure 14. Normalized Maximum Transient Thermal Impedance

Product dimension (SOP-8)



Dim	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	5.800	6.200	0.228	0.244
B	3.800	4.000	0.150	0.157
C	0.330	0.510	0.013	0.020
D	4.700	5.100	0.185	0.200
E	1.350	1.750	0.053	0.069
F	1.270 (BSC)		0.050 (BSC)	
G	0.100	0.250	0.004	0.010
H	0.170	0.250	0.006	0.010

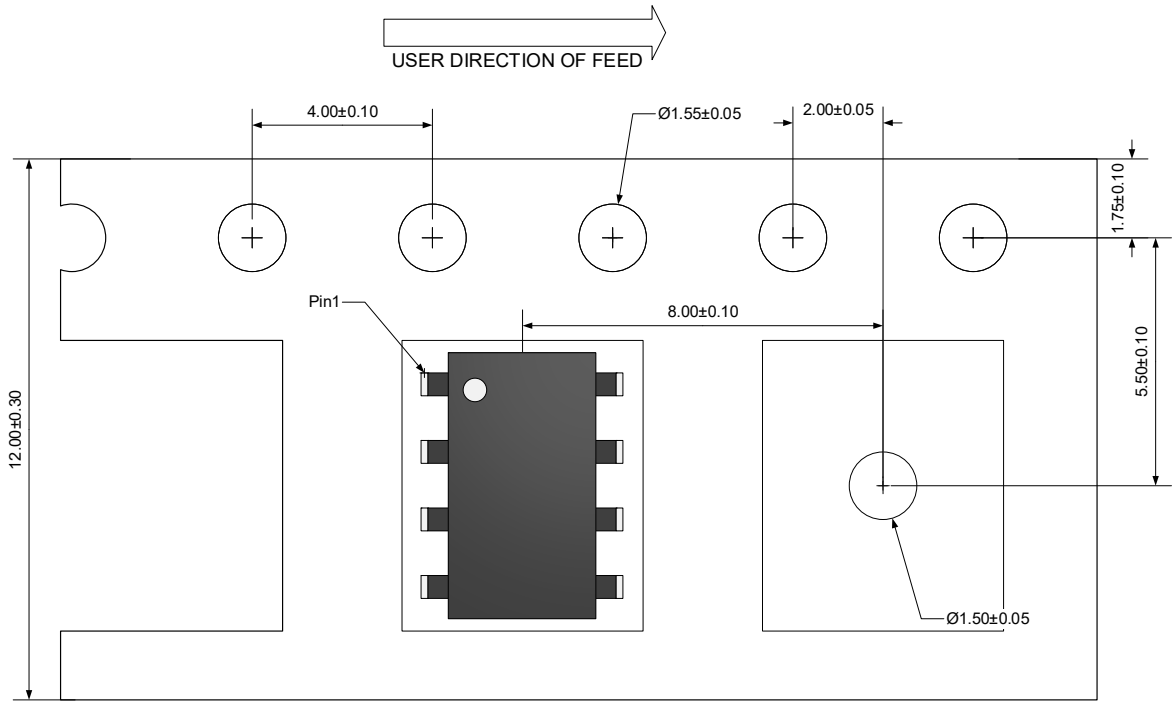
Marking information



Ordering information


Device	Package	Reel	Shipping
PPM8P30V8	SOP-8	13"	4000 / Tape & Reel

Load with information



Unit:mm


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