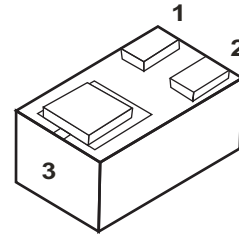


## CMS3134KQA-HF

**N-Channel  
RoHS Device  
Halogen Free**



### Features

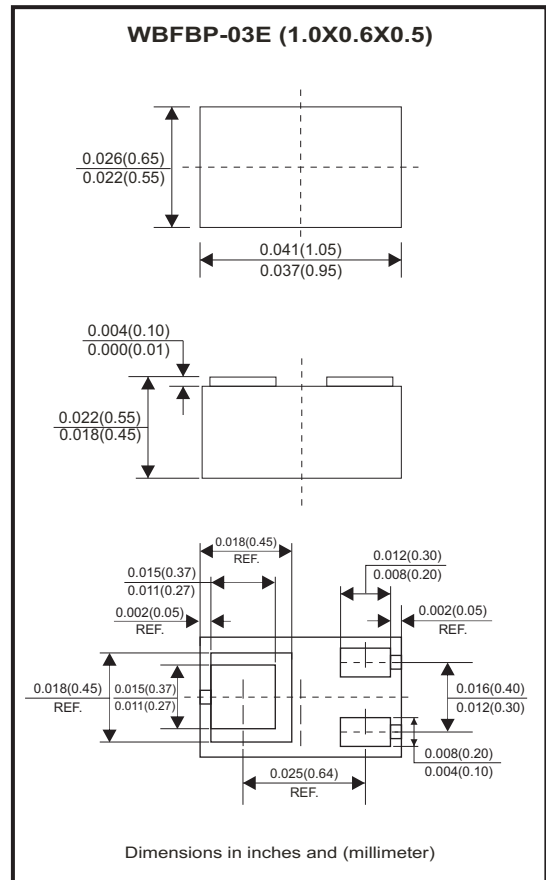
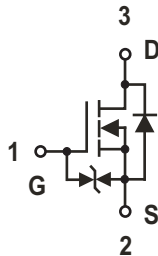
- Surface mount package
- N-Channel switch with low  $R_{DS(on)}$
- Operated at low logic level gate drive
- Complementary to CMS3139KQA-HF

### Mechanical data

- Case: WBFBP-03E, molded plastic.
- Terminals: Solderable per MIL-STD-750, method 2026.

### Circuit Diagram

- 1. G : Gate
- 2. S : Source
- 3. D : Drain



### Maximum Rating (at $T_a=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source voltage	$V_{DS}$	20	V
Typical Gate-Source voltage	$V_{GS}$	$\pm 12$	V
Continuous drain current (note1)	$I_D$	0.75	A
Pulsed drain current ( $t_p=10\mu\text{s}$ )	$I_{DM}$	1.80	A
Power dissipation (note2)	$P_D$	100	mW
Thermal resistance from junction to ambient (note1)	$R_{\theta JA}$	1250	$^\circ\text{C/W}$
Junction temperature	$T_J$	150	$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-55 to +150	$^\circ\text{C}$
Lead temperature for soldering purposes(1/8" from case for 10 s)	$T_L$	260	$^\circ\text{C}$

## Electrical Characteristics (at Ta=25 °C unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
<b>Static Characteristics</b>						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	20			V
Zero gate voltage drain current	$I_{DSS}$	$V_{DS} = 20V, V_{GS} = 0V$			1	$\mu A$
Gate-body leakage current	$I_{GSS}$	$V_{GS} = \pm 10V, V_{DS} = 0V$			$\pm 20$	$\mu A$
Gate threshold voltage (note 2)	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.35		1.1	V
Drain-source on-resistance (note 2)	$R_{DS(on)}$	$V_{GS} = 4.5V, I_D = 0.65A$			380	m $\Omega$
		$V_{GS} = 2.5V, I_D = 0.55A$			450	
		$V_{GS} = 1.8V, I_D = 0.45A$			800	
Forward transconductance (note 2)	$g_{FS}$	$V_{DS} = 10V, I_D = 0.8A$		1.6		S
Diode forward voltage	$V_{SD}$	$I_S = 0.15A, V_{GS} = 0V$			1.2	V
<b>Dynamic Characteristics (note 4)</b>						
Input capacitance	$C_{iss}$	$V_{DS} = 16V, V_{GS} = 0V, f = 1MHz$		79	120	pF
Output capacitance	$C_{oss}$			13	20	
Reverse transfer capacitance	$C_{rss}$			9	15	
<b>Switching Characteristics (note 4)</b>						
Turn-on delay time (note 3)	$t_{d(on)}$	$V_{GS} = 4.5V, V_{DS} = 10V, I_D = 500mA, R_{GEN} = 10\Omega$		6.7		nS
Turn-on rise time (note 3)	$t_r$			4.8		
Turn-off delay time (note 3)	$t_{d(off)}$			17.3		
Turn-off fall time (note 3)	$t_f$			7.4		

- Notes:**
1. Surface mounted on FR4 board using the minimum recommended pad size.
  2. Pulse test: Pulse width = 300 $\mu s$ , duty cycle  $\leq 2\%$
  3. Switching characteristics are independent of operating junction temperatures.
  4. Granted by design, not subject to producing.

## RATING AND CHARACTERISTIC CURVES (CMSN3134KQA-HF)

Fig.1 - Output Characteristics

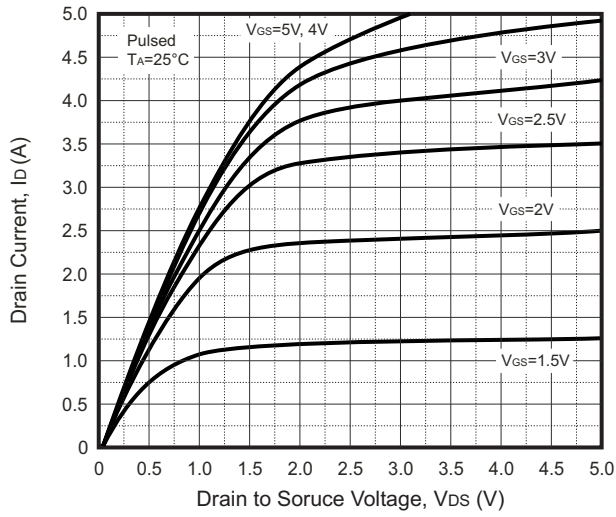


Fig.2 - Transfer Characteristics

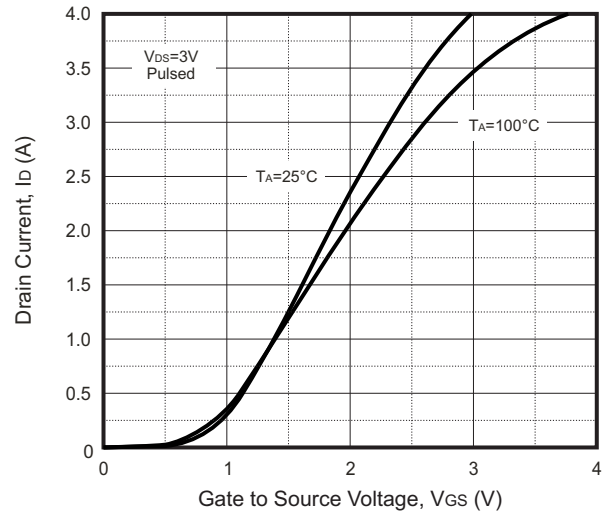


Fig.3 -  $R_{DS(ON)}$  —  $I_D$

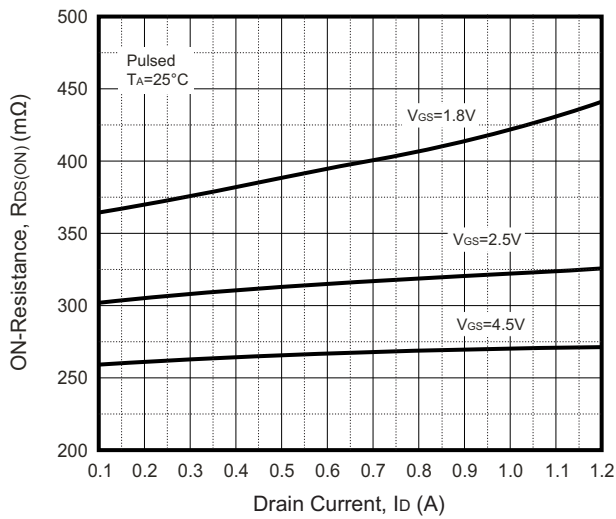


Fig.4 -  $R_{DS(ON)}$  —  $V_{GS}$

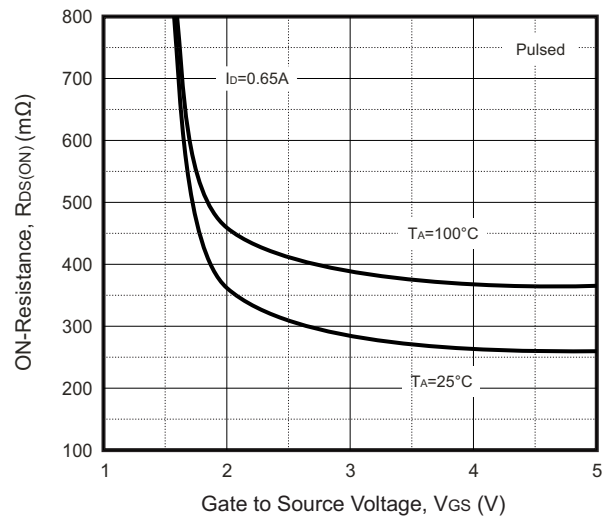


Fig.5 -  $I_S$  —  $V_{SD}$

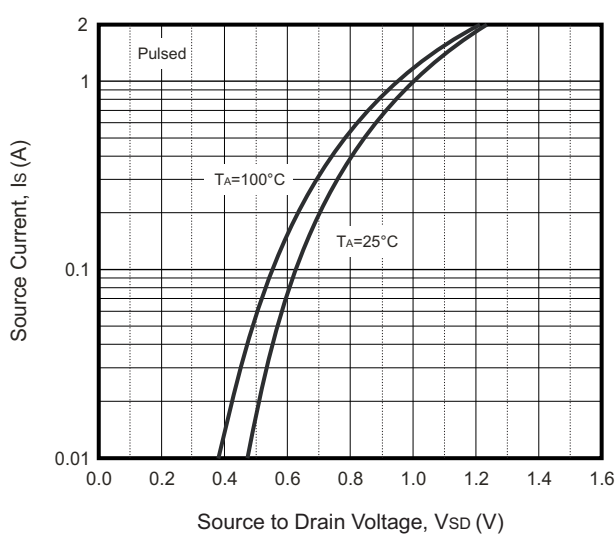
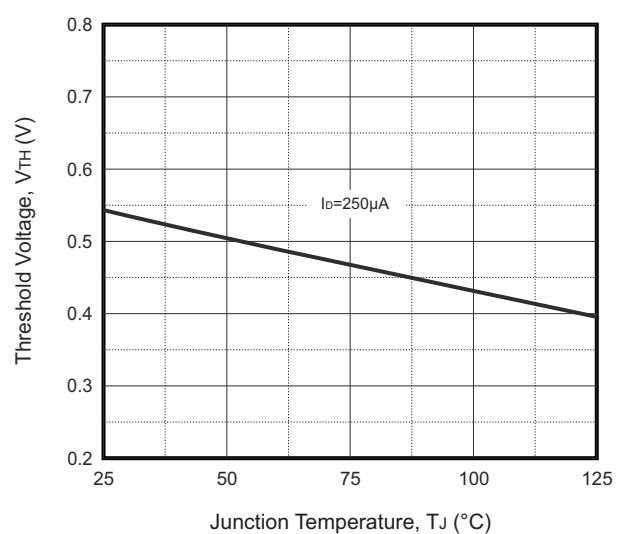
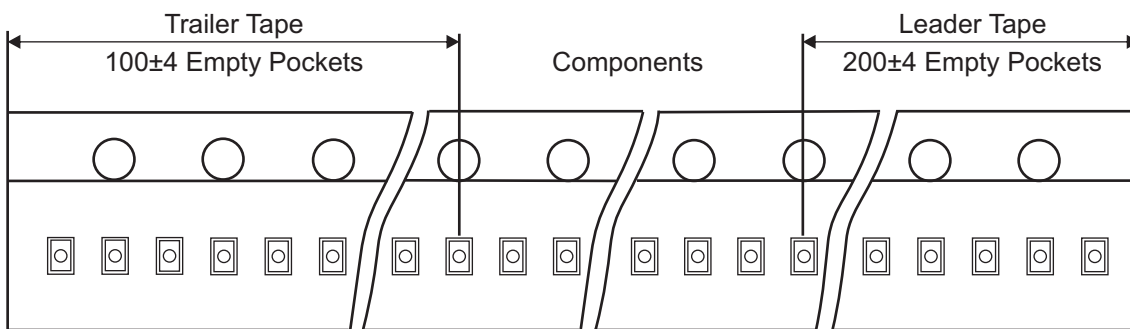
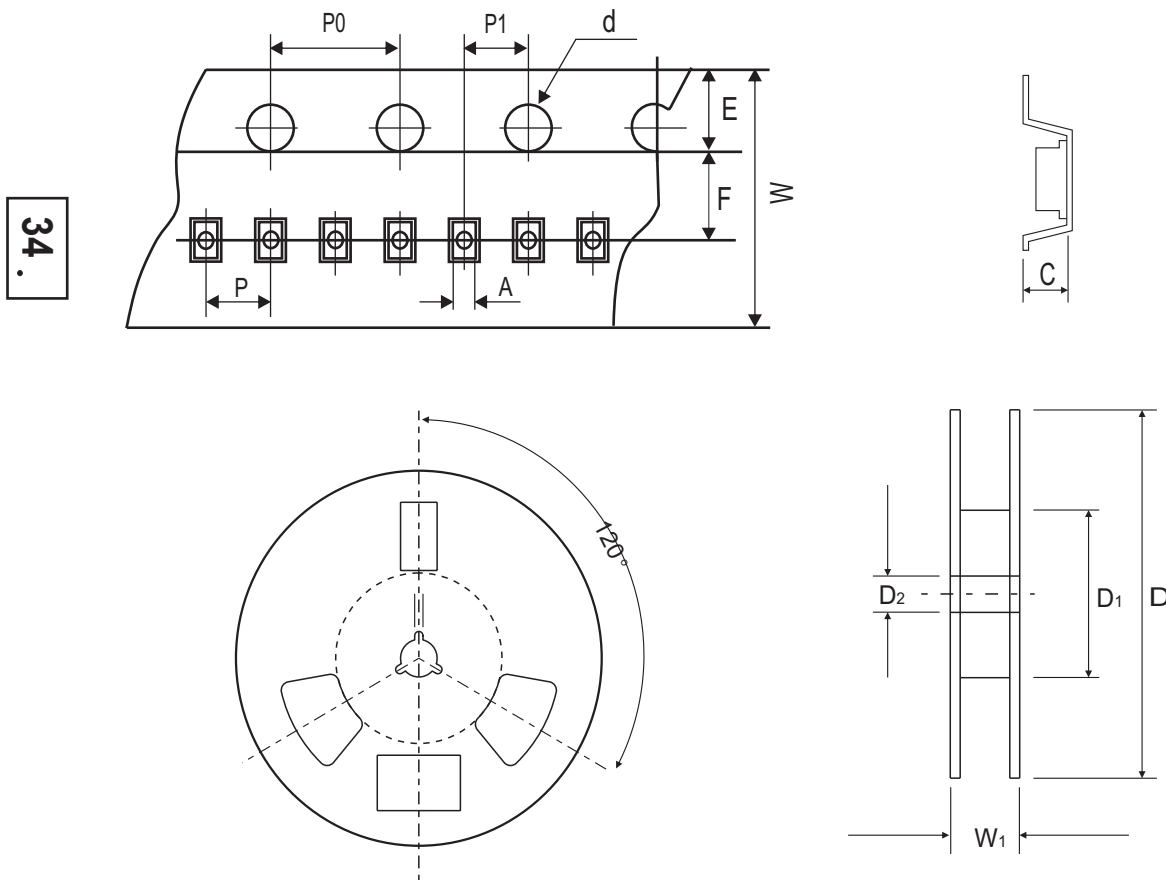


Fig.6 - Threshold Voltage



Company reserves the right to improve product design, functions and reliability without notice.

Reel Taping Specification



WBFBP-03E (1.0X0.6X0.5)	SYMBOL	A	B	C	d	D	D <sub>1</sub>	D <sub>2</sub>
	(mm)	0.66 ± 0.05	1.15 ± 0.05	0.66 ± 0.05	1.50 + 0.10	178.00 ± 2.00	54.40 ± 1.00	13.00 ± 1.00
	(inch)	0.026 ± 0.002	0.045 ± 0.002	0.026 ± 0.002	0.059 + 0.004	7.008 ± 0.079	2.142 ± 0.039	0.512 ± 0.039

WBFBP-03E (1.0X0.6X0.5)	SYMBOL	E	F	P	P <sub>0</sub>	P <sub>1</sub>	W	W <sub>1</sub>
	(mm)	1.75 ± 0.10	3.50 ± 0.05	2.00 ± 0.05	4.00 ± 0.05	2.00 ± 0.05	8.00 + 0.30 - 0.10	12.30 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.079 ± 0.002	0.157 ± 0.002	0.079 ± 0.002	0.315 + 0.012 - 0.004	0.484 ± 0.039

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REV:A

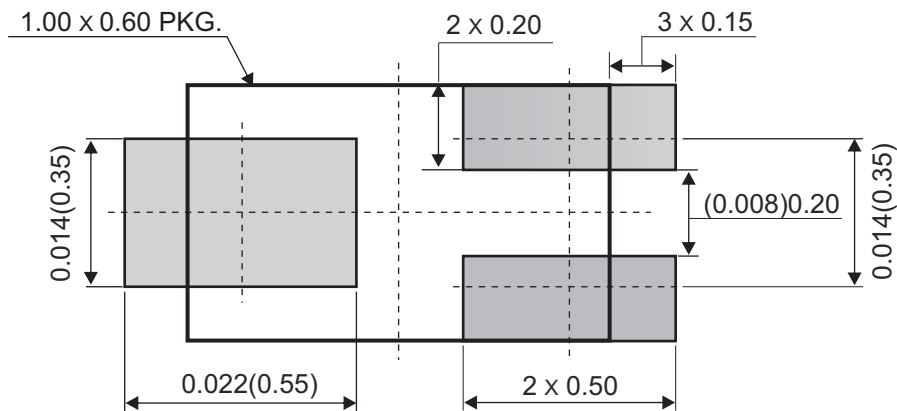
## Marking Code

Part Number	Marking Code
CMS3134KQA-HF	34 .



34 = Device code  
 Solid dot = Pin 1 indicator

## Suggested PAD Layout



## Standard Packaging

Case Type	REEL PACK	
	REEL ( pcs )	Reel Size (inch)
WBFBP-03E	10,000	7