

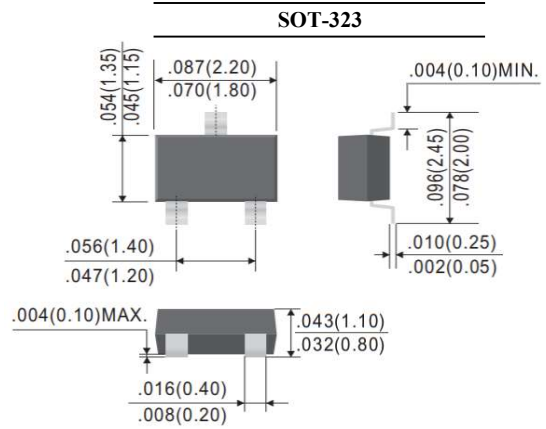
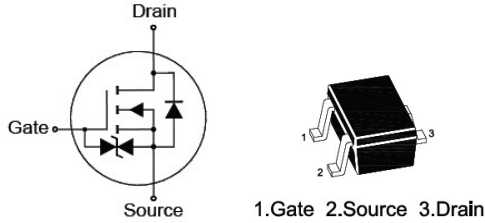


SM3018KW

N-Channel Enhancement Mode Field Effect Transistor

FEATURES

- Low on-resistance
- Fast switching speed
- Drive circuits can be simple
- Suffix "H" indicates Halogen-free parts, ex. SM3018KWH



Dimensions in inch and (millimeter)

Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	30	V
Gate-Source Voltage	V_{GSS}	± 20	V
Drain Current	Continuous	I_D	100
	Pulsed (Note 1)	I_{DM}	400
Total Power Dissipation (Note 2)	P_{tot}	200	mW
Operating and Storage Temperature Range	T_j, T_{stg}	- 55 to + 150	$^\circ\text{C}$

Note :

1. Pulse width $\leq 10\mu\text{s}$, Duty cycle $\leq 1\%$
2. With each pin mounted on the recommended lands.

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Test Conditions	Symbol	Min.	Typ.	Max.	Unit
Drain Source Breakdown Voltag	$I_D = 10\mu\text{A}$	BV_{DSS}	30	-	-	V
Zero Gate Voltage Drain Current	$V_{DS} = 30\text{V}$	I_{DSS}	-	-	1	μA
Gate Source Leakage Current	$V_{GS} = \pm 20\text{V}$	I_{GSS}	-	-	± 1	μA
Gate Threshold Voltage	$V_{DS} = 3\text{V}, I_D = 100\mu\text{A}$	$V_{GS(th)}$	0.8	-	1.5	V
Static Drain Source On-Resistance	$V_{GS} = 4\text{V}, I_D = 10\text{mA}$	$R_{DS(ON)}$	-	-	8	Ω
	$V_{GS} = 2.5\text{V}, I_D = 1\text{mA}$		-	-	13	
Forward Transfer Admittance	$V_{DS} = 3\text{V}, I_D = 10\text{mA}$	$ y_{fs} $	20	-	-	mS
Input Capacitance	$V_{DS} = 5\text{V}, f = 1\text{MHz}$	C_{iss}	-	13	-	pF
Output Capacitance		C_{oss}	-	9	-	
Reverse Transfer Capacitance		C_{rss}	-	4	-	
Turn-On Delay Time	$V_{DD} = 5\text{V}, I_D = 10\text{mA},$ $V_{GS} = 5\text{V}, R_L = 500\Omega,$ $R_G = 10\Omega$	$t_{d(on)}$	-	15	-	ns
Rise Time		t_r	-	35	-	
Turn-Off Delay Time		$t_{d(off)}$	-	80	-	
Fall time		t_f	-	80	-	



RATINGS AND CHARACTERISTIC CURVES

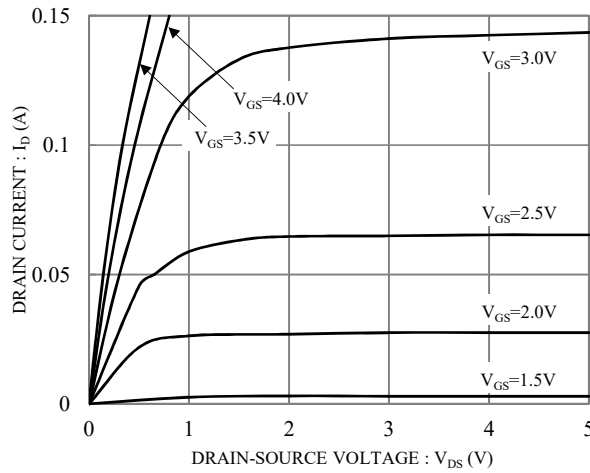


Fig.1 Typical output characteristics

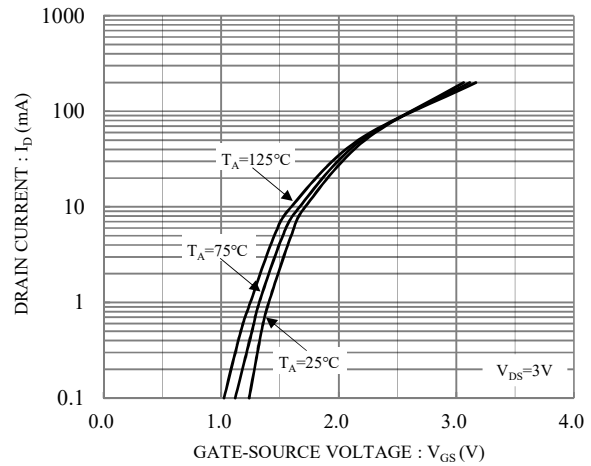


Fig.2 Typical transfer characteristics

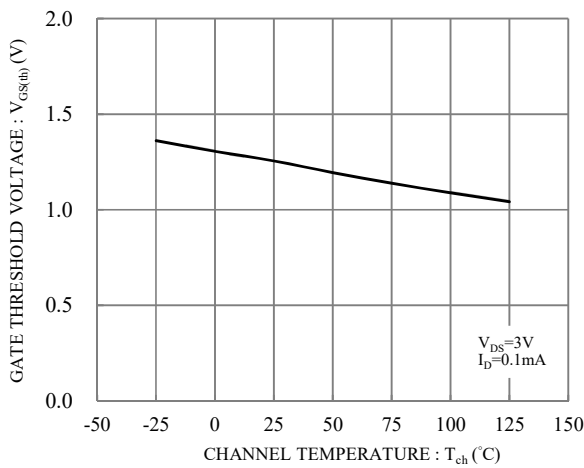


Fig.3 Gate threshold voltage vs. channel temperature

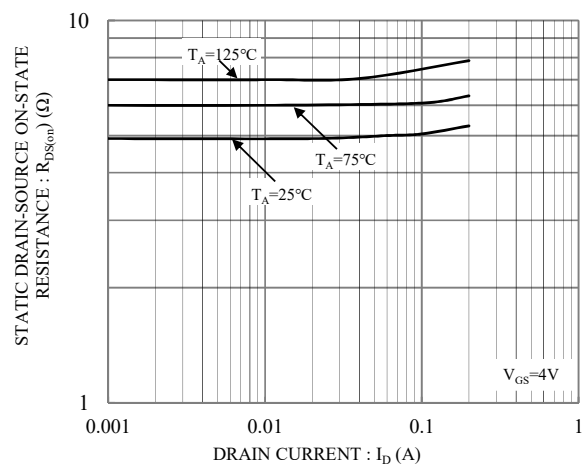


Fig.4 Static drain-source on-state resistance vs. drain current

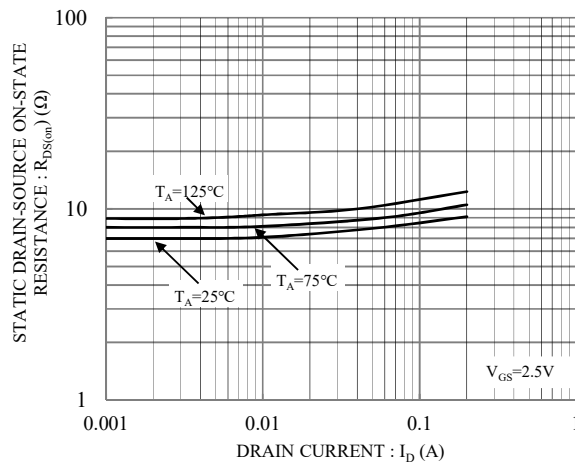


Fig.5 Static drain-source on-state resistance vs. drain current

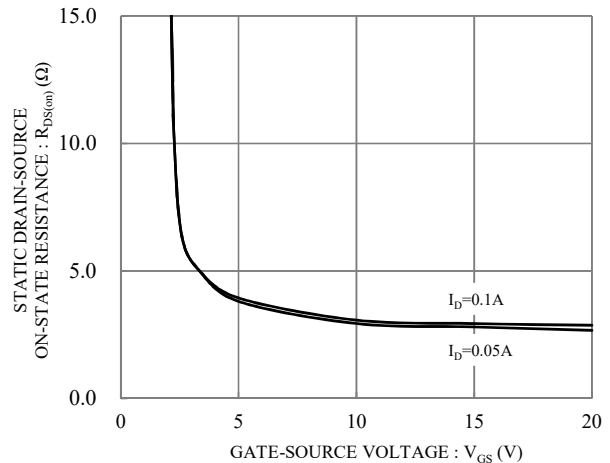


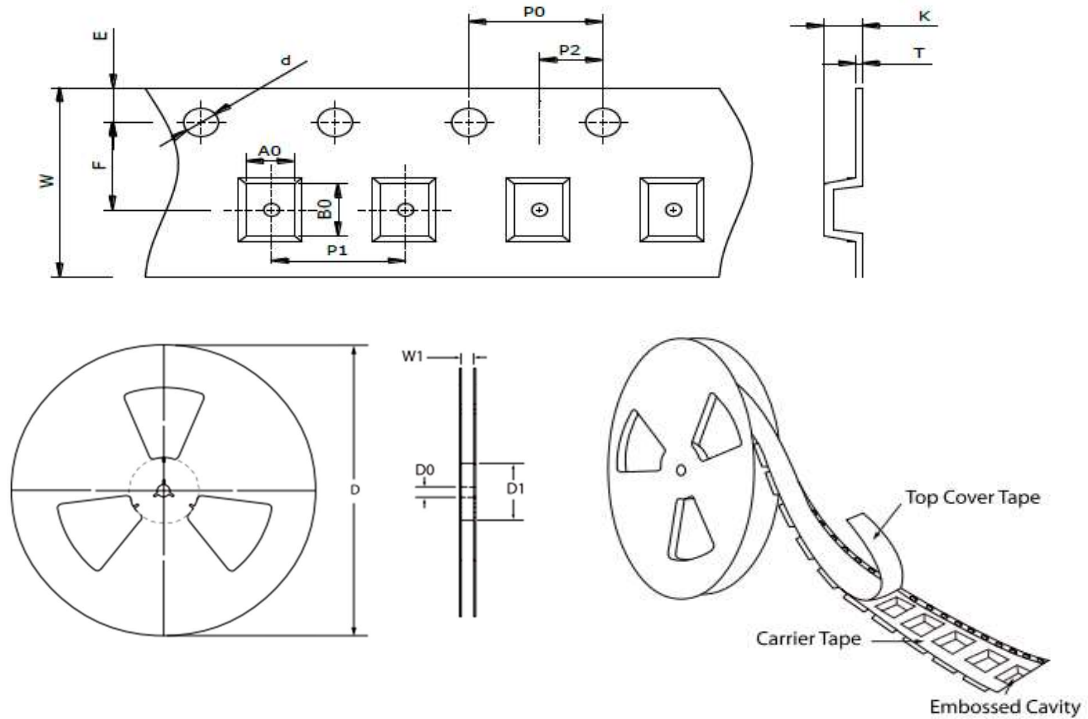
Fig.6 Static drain-source on-state resistance vs. gate-source voltage



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TAPE & REEL SPECIFICATION



Item	Symbol	SOT-323
Carrier width	A ₀	2.30 ± 0.10
Carrier length	B ₀	2.55 ± 0.10
Carrier depth	K	1.20 ± 0.10
Sprocket hole	d	1.50 ± 0.10
Reel outside diameter	D	178.00 ± 2.00
Feed hole width	D ₀	13.00 ± 0.50
Reel inner diameter	D ₁	MIN. 50.00
Sprocket hole position	E	1.75 ± 0.10
Punch hole position	F	3.50 ± 0.10
Sprocket hole pitch	P ₀	4.00 ± 0.10
Punch hole pitch	P ₁	4.00 ± 0.10
Embossment center	P ₂	2.00 ± 0.10
Overall tape thickness	T	0.20 ± 0.05
Tape width	W	8.00 ± 0.20
Reel width	W1	MAX. 14.50

ORDER INFORMATION

Package	Reel Size	Quantity
SOT-323	7"	3,000

MARKING CODE

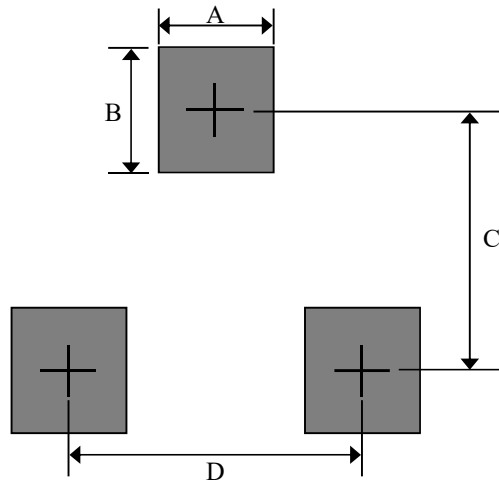
Part Number	Marking Code
SM3018KW	KN



SM3018KW

N-Channel Enhancement Mode Field Effect Transistor

SUGGESTED SOLDER PAD LAYOUT



Unit : mm

PACKAGE	A	B	C	D
SOT-323	0.80	0.80	1.60	1.30

