

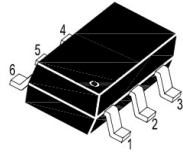


# SM3008KDW

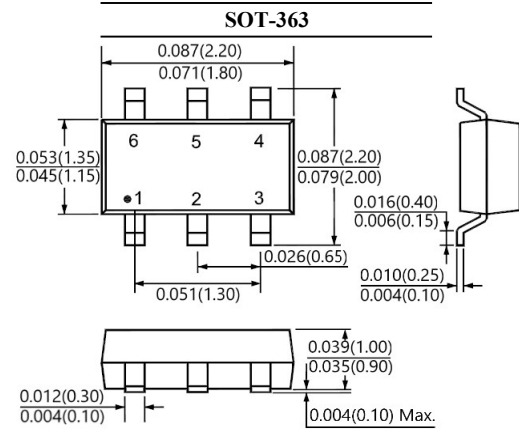
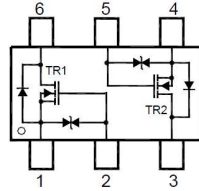
## N-Channel Enhancement Mode Field Effect Transistor

### FEATURES

- Low Threshold Voltage
- High Speed Switching
- ESD protected up to 2kV
- Suffix "H" indicates Halogen-free parts, ex. SM3008KDW H



1.Source 2.Gate 3.Drain  
4.Source 5.Gate 6.Drain



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	$V_{GSS}$	$\pm 8$	V
Drain Current (Continuous) @ $V_{GS}=4.5\text{V}$	$I_D$	$T_A=25^\circ\text{C}$	350
		$T_A=100^\circ\text{C}$	230
Drain Current (Pulse Width $\leq 10\ \mu\text{s}$ )	$I_{DM}$	1.4	A
Total Power Dissipation (Note 1)	$P_{tot}$	445	mW
Thermal Resistance, Junction to Ambient (Note 1)	$R_{\theta JA}$	300	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_J, T_{stg}$	- 55 to + 150	$^\circ\text{C}$

Note:

1. Device mounted on an FR4 Printed-Circuit Board (PCB), single-sided copper, tin-plated and standard footprint.

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

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
Drain Source Breakdown Voltage	$I_D=250\ \mu\text{A}$	$BV_{DSS}$	30	-	-	V
Zero Gate Voltage Drain Current	$V_{DS}=30\text{V}$	$I_{DSS}$	-	-	1	$\mu\text{A}$
Gate Source Leakage Current	$V_{GS}=\pm 8\text{V}$	$I_{GSS}$	-	-	$\pm 1000$	nA
	$V_{GS}=\pm 4.5\text{V}$		-	$\pm 10$	-	
	$V_{GS}=\pm 2.5\text{V}$		-	$\pm 1$	-	
Gate Threshold Voltage	$I_D=250\ \mu\text{A}$	$V_{GS(th)}$	0.6	-	1.1	V
Static Drain Source On-Resistance	$V_{GS}=4.5\text{V}, I_D=350\text{mA}$	$R_{DS(on)}$	-	-	1.4	$\Omega$
	$V_{GS}=2.5\text{V}, I_D=200\text{mA}$		-	-	2.1	
	$V_{GS}=1.8\text{V}, I_D=10\text{mA}$		-	-	2.8	
Forward Transconductance	$V_{DS}=10\text{V}, I_D=350\text{mA}$	$g_{FS}$	-	310	-	mS
Input Capacitance	$V_{DS}=15\text{V}, V_{GS}=0\text{V}, f=1\text{MHz}$	$C_{iss}$	-	34	-	pF
Output Capacitance		$C_{oss}$	-	6.5	-	pF
Reverse Transfer Capacitance		$C_{rss}$	-	2.2	-	pF
Turn-On Delay Time		$t_{d(on)}$	-	15	-	ns
Rise Time	$t_r$	-	11	-		
Turn-Off Delay Time	$t_{d(off)}$	-	69	-		
Fall Time	$t_f$	-	19	-		
<b>Drain-Source Body Diode</b>						
Diode Forward Voltage	$I_S=350\text{mA}$	$V_{SD}$	-	-	1.2	V



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### RATINGS AND CHARACTERISTIC CURVES

