

## CJ3139KDW-G (Dual P-Channel)

RoHS Device



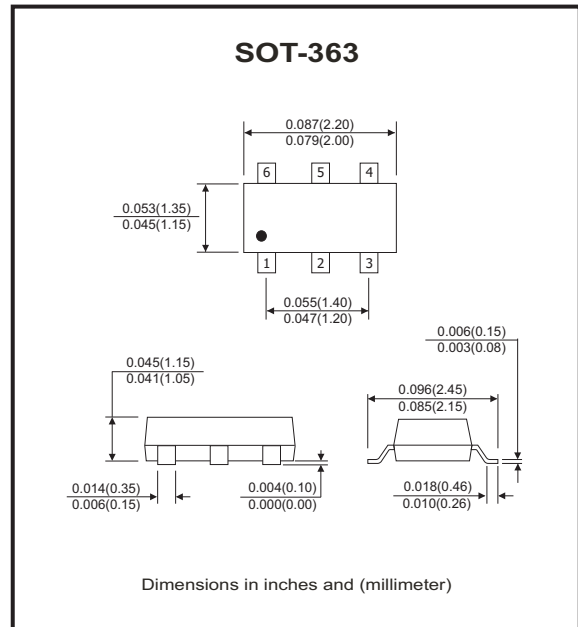
V(BR)DSS	RDS(on)MAX	ID
-20V	520mΩ @ -4.5V	-0.66A
	700mΩ @ -2.5V	
	950mΩ(TYP) @ -1.8V	

### Features

- High-side switching
- Low on-resistance
- Low threshold
- Fast switching speed

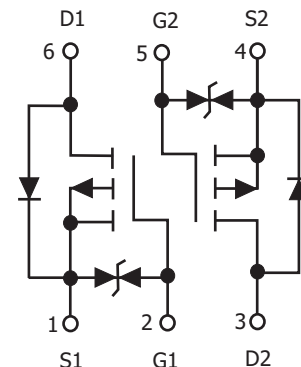
### Mechanical data

- Case: SOT-363, molded plastic.
- Terminals: Solderable per MIL-STD-750, method 2026.
- Weight: 0.006 grams (approx.)



### Circuit diagram

G : Gate  
S : Source  
D : Drain



### Maximum Ratings (at Ta=25 °C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-source voltage	V <sub>DSS</sub>	-20	V
Typ. Gate-source voltage	V <sub>GS</sub>	±12	V
Drain current-Continuous	I <sub>D(DC)</sub>	-0.66	A
Drain current-pulsed (note1)	I <sub>DM(pulse)</sub>	-2.64	A
Power dissipation (note 2)	P <sub>D</sub>	150	mW
Thermal resistance from junction to ambient	R <sub>θJA</sub>	833	°C/W
Junction temperature range	T <sub>J</sub>	-40 to +150	°C
Storage temperature range	T <sub>STG</sub>	-55 to +150	°C

## Electrical Characteristics (at T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
<b>On/Off States</b>						
Drain-source breakdown voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V , I <sub>D</sub> = -250μA	-20			V
Gate threshold voltage (note 3)	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -250μA	-0.35		-1.1	V
Gate-body leakage current	I <sub>GSS</sub>	V <sub>GS</sub> = ±10V, V <sub>DS</sub> = 0V			±20	μA
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> = -20V , V <sub>GS</sub> = 0V			-1	μA
Drain-source on-state resistance (note 3)	R <sub>DS(on)</sub>	V <sub>GS</sub> = -4.5V , I <sub>D</sub> = -1A			520	mΩ
		V <sub>GS</sub> = -2.5V , I <sub>D</sub> = -800mA			700	
		V <sub>GS</sub> = -1.8V , I <sub>D</sub> = -500mA		950		
Forward transconductance	g <sub>fs</sub>	V <sub>DS</sub> = -10V , I <sub>D</sub> = -540mA	0.8			S
<b>Dynamic characteristics (note 4)</b>						
Input capacitance	C <sub>iss</sub>	V <sub>DS</sub> = -16V , V <sub>GS</sub> = 0V f=1MHz			170	pF
Output capacitance	C <sub>oss</sub>				25	
Reverse transfer capacitance	C <sub>rss</sub>				15	
<b>Switching time (note4)</b>						
Turn-on delay time	t <sub>d(on)</sub>	V <sub>DD</sub> = -10V, I <sub>D</sub> = -200mA V <sub>GS</sub> = -4.5V, R <sub>G</sub> = 10Ω		9		nS
Rise time	t <sub>r</sub>			5.8		
Turn-off delay time	t <sub>d(off)</sub>			32.7		
Fall time	t <sub>f</sub>			20.3		
<b>Drain-source diode characteristics</b>						
Drain-source diode forward voltage (note 3)	V <sub>SD</sub>	I <sub>S</sub> = -0.5A , V <sub>GS</sub> = 0V			-1.2	V

**Notes:**

1. Repetitive rating: Pulse width limited by maximum junction temperature.
2. This test is performed with no heat sink at T<sub>a</sub>=25°C.
3. Pulse test: Pulse width≤300μs, Duty cycle≤0.5%.
4. These parameters have no way to verify.

RATING AND CHARACTERISTIC CURVES (CJ3139KDW-G)

Fig.1 - Output Characteristics

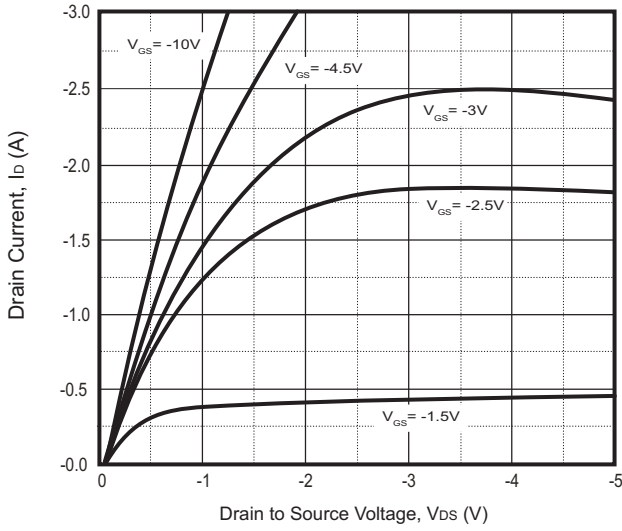


Fig.2 - Transfer Characteristics

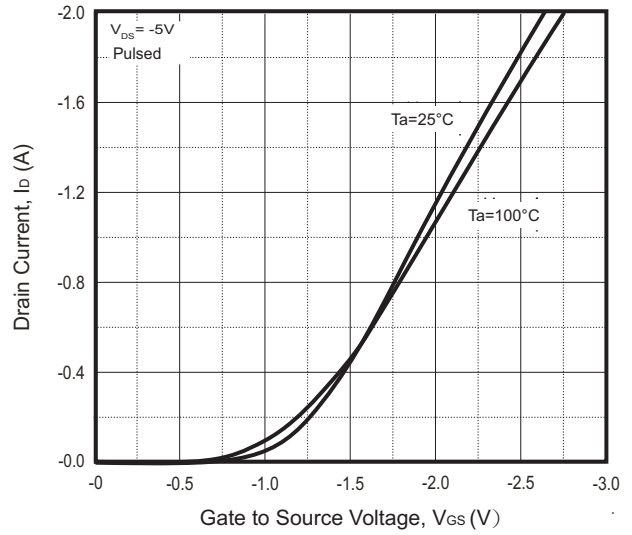


Fig.3 -  $R_{DS(ON)}$  —  $I_D$

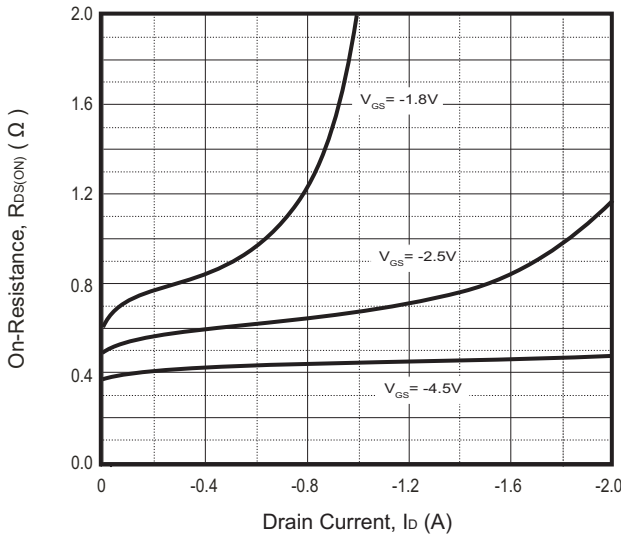


Fig.4 -  $R_{DS(ON)}$  —  $V_{GS}$

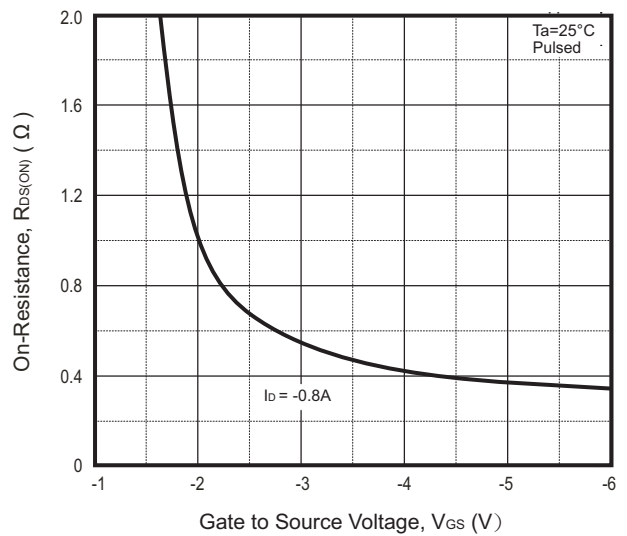


Fig.5 -  $I_S$  —  $V_{SD}$

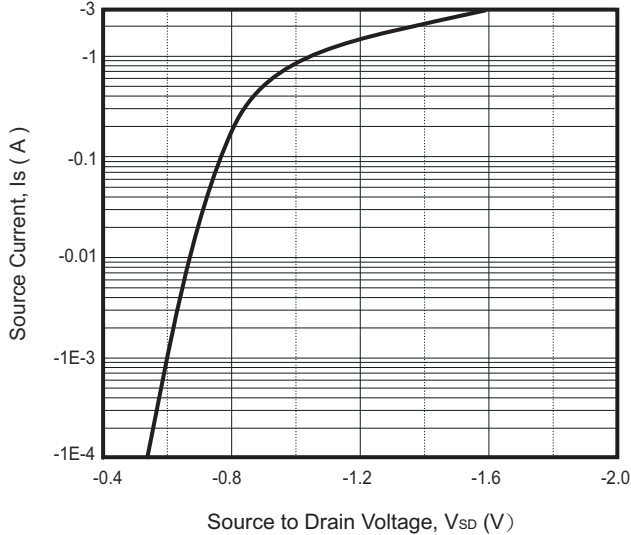
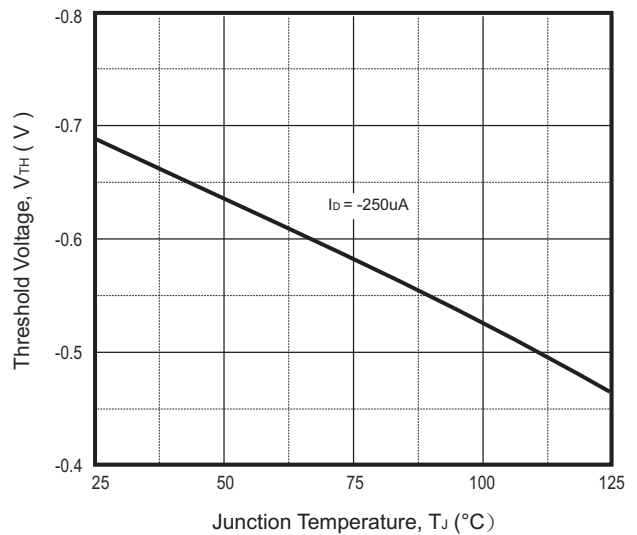
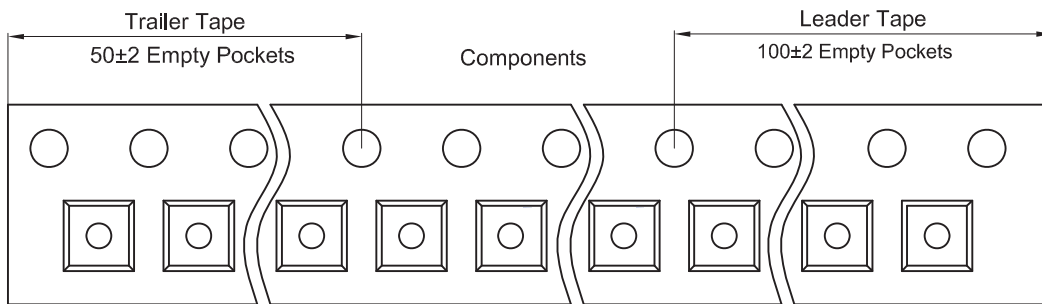
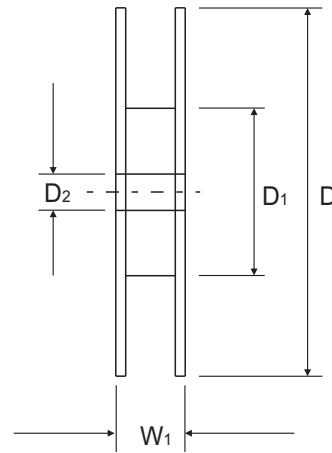
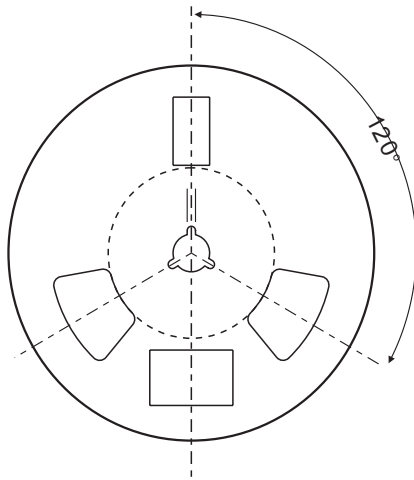
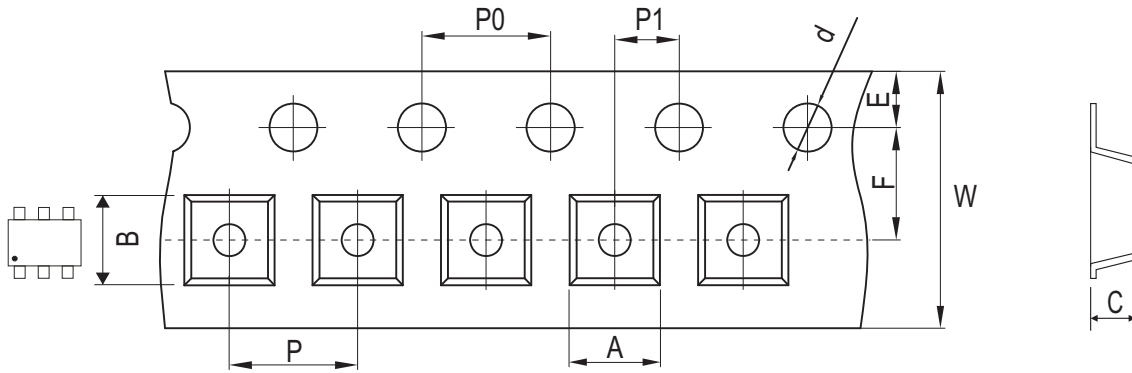


Fig.6 - Threshold Voltage



### Reel Taping Specification

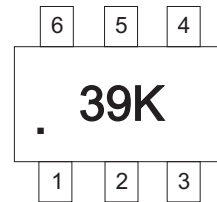


SOT-363	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	2.25 ± 0.05	2.55 ± 0.05	1.20 ± 0.05	1.50 ± 0.10	178.00 ± 2.00	54.40 ± 1.00	13.00 ± 1.00
	(inch)	0.089 ± 0.002	0.100 ± 0.002	0.047 ± 0.002	0.059 ± 0.004	7.008 ± 0.079	2.142 ± 0.039	0.512 ± 0.039

SOT-363	SYMBOL	E	F	P	P0	P1	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	8.00 + 0.30/-0.10	12.30 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.315 + 0.012/-0.004	0.484 ± 0.039

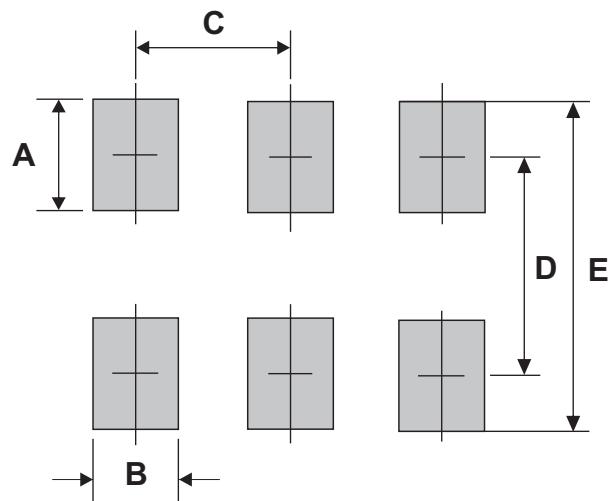
## Marking Code

Part Number	Marking Code
CJ3139KDW-G	39K



## Suggested PAD Layout

SIZE	SOT-363	
	(mm)	(inch)
A	0.80	0.032
B	0.40	0.016
C	0.65	0.026
D	1.94	0.076
E	2.74	0.108



## Standard Packaging

Case Type	REEL PACK	
	REEL ( pcs )	Reel Size (inch)
SOT-363	3,000	7

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [MOSFET](#) category:*

*Click to view products by [Comchip](#) manufacturer:*

Other Similar products are found below :

[614233C](#) [648584F](#) [IRFD120](#) [JANTX2N5237](#) [2N7000](#) [FCA20N60\\_F109](#) [FDZ595PZ](#) [2SK2545\(Q,T\)](#) [405094E](#) [423220D](#)  
[TPCC8103,L1Q\(CM](#) [MIC4420CM-TR](#) [VN1206L](#) [614234A](#) [715780A](#) [NTNS3166NZT5G](#) [SSM6J414TU,LF\(T](#) [751625C](#)  
[IPS70R2K0CEAKMA1](#) [BUK954R8-60E](#) [DMN3404LQ-7](#) [NTE6400](#) [SQJ402EP-T1-GE3](#) [2SK2614\(TE16L1,Q\)](#) [2N7002KW-FAI](#)  
[DMN1017UCP3-7](#) [EFC2J004NUZTDG](#) [ECH8691-TL-W](#) [FCAB21350L1](#) [P85W28HP2F-7071](#) [DMN1053UCP4-7](#) [NTE221](#) [NTE2384](#)  
[NTE2903](#) [NTE2941](#) [NTE2945](#) [NTE2946](#) [NTE2960](#) [NTE2967](#) [NTE2969](#) [NTE2976](#) [NTE455](#) [NTE6400A](#) [NTE2910](#) [NTE2916](#) [NTE2956](#)  
[NTE2911](#) [US6M2GTR](#) [TK10A80W,S4X\(S](#) [SSM6P69NU,LF](#)