

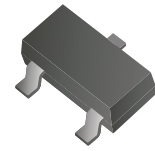
## CJ3400-HF (N-Channel )

Reverse Voltage: 30 Volts

Forward Current: 5.8 A

RoHS Device

Halogen Free



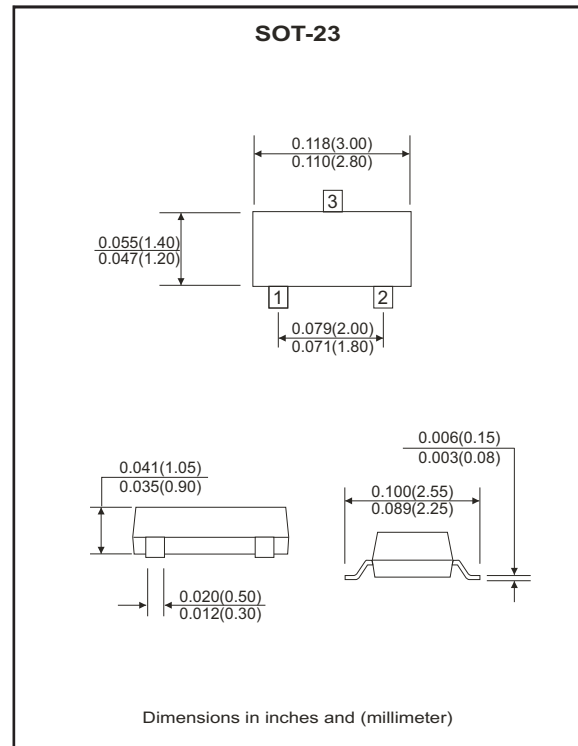
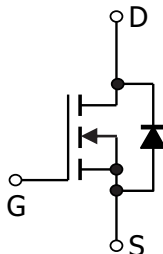
### Features

- N-Channel Enhancement mode field effect transistor.
- High dense cell design for extremely low  $R_{DS(ON)}$
- Exceptional on-resistance and maximum DC current capability.

### Mechanical data

- Case: SOT-23, molded plastic.
- Terminals: solderable per MIL-STD-750, method 2026.

### Circuit diagram



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

Parameter	Symbol	Value	Units
Drain-source voltage	$V_{DS}$	30	V
Gate-source voltage	$V_{GS}$	$\pm 12$	V
Continuous drain current	$I_D$	5.8	A
Drain current-pulsed (note 1)	$I_{DM}$	30	A
Power dissipation	$P_D$	350	mW
Thermal resistance from Junction to ambient (note 2)	$R_{\theta JA}$	357	$^\circ\text{C/W}$
Junction temperature	$T_J$	150	$^\circ\text{C}$
Storage temperature	$T_{STG}$	-55 to +150	$^\circ\text{C}$

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

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
<b>Off Characteristics</b>						
Drain-Source breakdown voltage	$V_{GS}=0V, I_D=250\mu A$	$V_{(BR)DSS}$	30			V
Zero gate voltage drain current	$V_{DS}=24V, V_{GS}=0V$	$I_{DSS}$			1	$\mu A$
Gate-Source leakage current	$V_{GS}=\pm 12V, V_{DS}=0V$	$I_{GSS}$			$\pm 100$	nA
<b>On Characteristics</b>						
Static drain-source on-resistance (note 3)	$V_{GS}=10V, I_D=5.8A$	$R_{DS(ON)}$			35	m $\Omega$
	$V_{GS}=4.5V, I_D=5A$				40	
	$V_{GS}=2.5V, I_D=4A$				52	
Forward transconductance	$V_{DS}=5V, I_D=5A$	$g_{FS}$	8			S
Gate threshold voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	$V_{GS(th)}$	0.7		1.4	V
<b>Dynamic Characteristics (note 3,4)</b>						
Input capacitance	$V_{DS}=15V, V_{GS}=0V, f=1MHz$	$C_{iss}$			1050	pF
Output capacitance		$C_{oss}$		99		
Reverse transfer capacitance		$C_{rss}$		77		
Gate resistance	$V_{DS}=0V, V_{GS}=0V, f=1MHz$	$R_g$			3.6	$\Omega$
<b>Switching Characteristics (note 3,4)</b>						
Turn-on delay time	$V_{GS}=10V, V_{DS}=15V, R_L=2.7\Omega, R_{GEN}=3\Omega$	$t_{d(on)}$			5	ns
Turn-on rise time		$t_r$			7	
Turn-off delay time		$t_{d(off)}$			40	
Turn-off Fall time		$t_f$			6	
<b>Drain-source diode characteristics and maximum ratings</b>						
Diode forward voltage (note 3)	$I_S=1A, V_{GS}=0V$	$V_{SD}$			1	V

Note:

1. Repetitive Rating : Pulse width limited by maximum junction temperature.
2. Surface mounted on FR4 Board,  $t < 5sec$ .
3. Pulse test; Pulse width  $\leq 300\mu s$ , Duty cycle  $\leq 2\%$ .
4. Guaranteed by design, not subject to production testing.

RATING AND CHARACTERISTIC CURVES (CJ3400-HF)

Fig.1- Output Characteristics

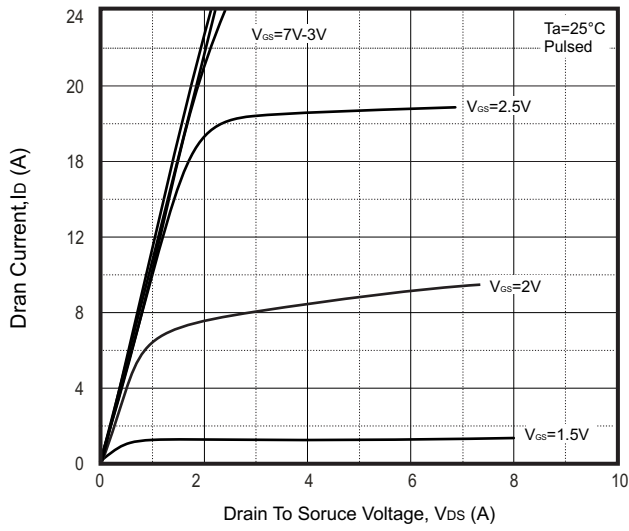


Fig.2- Transfer Characteristics

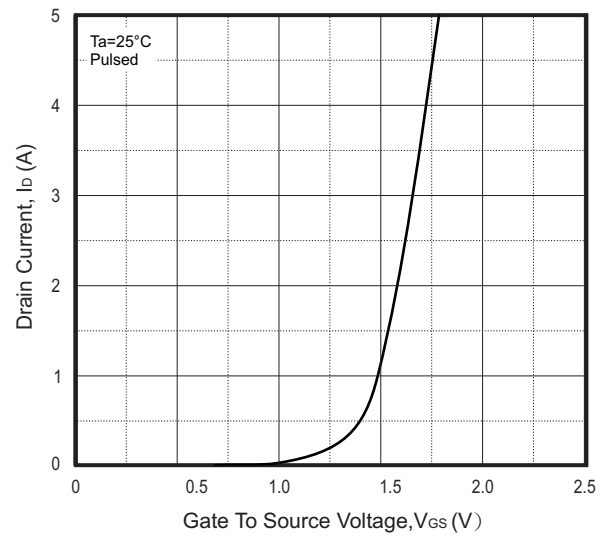


Fig.3-  $R_{DS(ON)}$  —  $I_D$

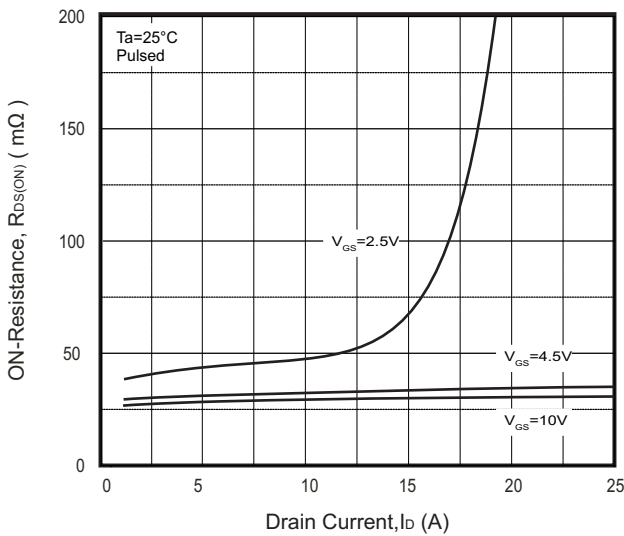


Fig.4-  $R_{DS(ON)}$  —  $V_{GS}$

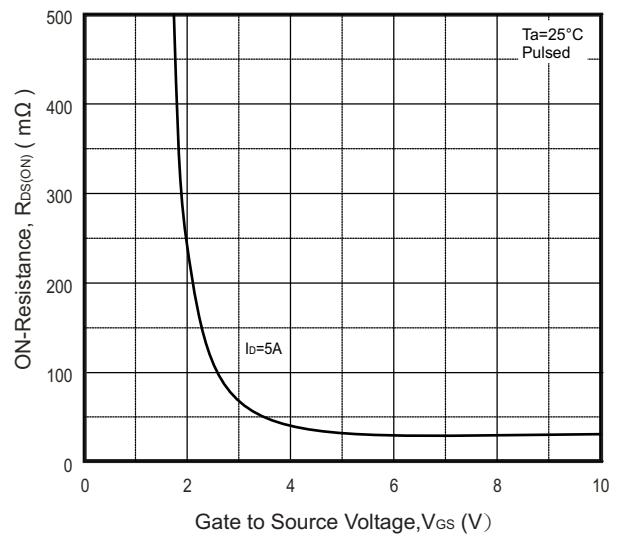
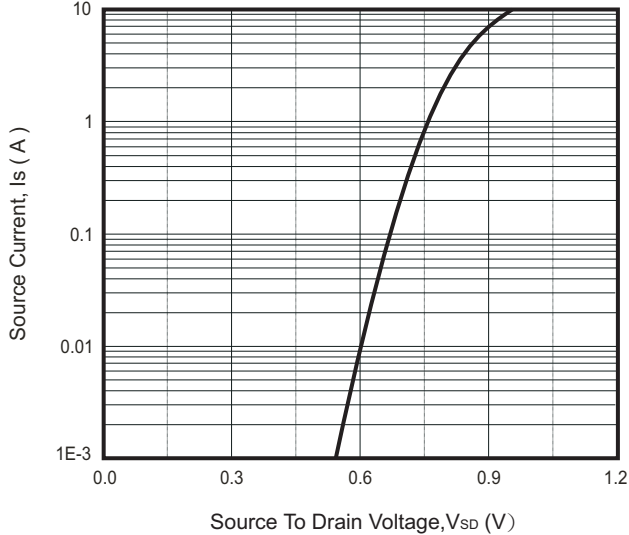


Fig.5 -  $I_S$  —  $V_{SD}$

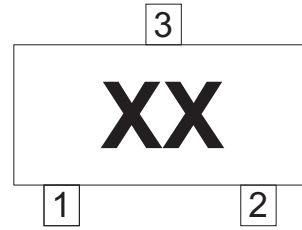


Company reserves the right to improve product design, functions and reliability without notice.

REV:A

## Marking Code

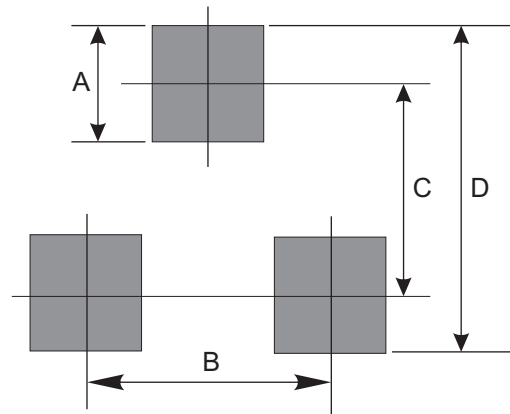
Part Number	Marking Code
CJ3400-HF	R0



xx = Product type marking code

## Suggested PAD Layout

SIZE	SOT-23	
	(mm)	(inch)
A	0.80	0.031
B	1.90	0.075
C	2.02	0.080
D	2.82	0.111



## Standard Packaging

Case Type	Qty Per Reel	Reel Size
	(Pcs)	(inch)
SOT-23	3,000	7