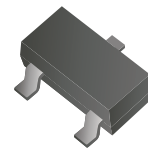


CJ3400-HF

N-Channel

RoHS Device

Halogen Free



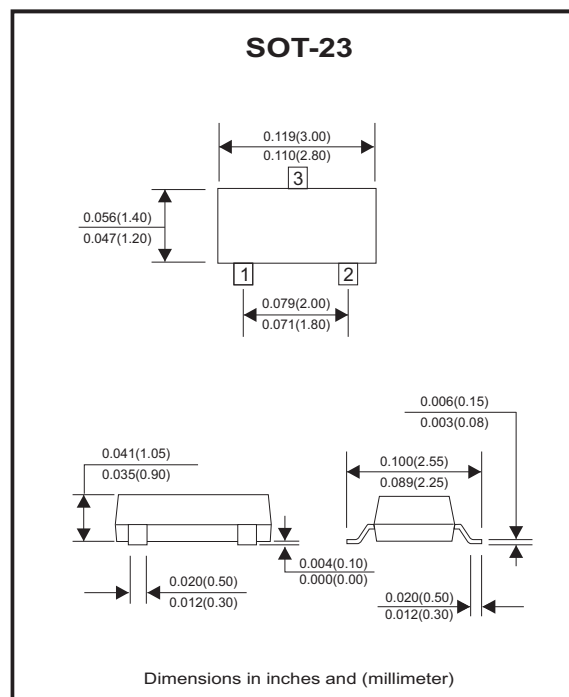
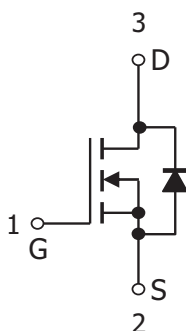
Features

- 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}	± 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 range	T_{STG}	-55 to +150	$^\circ\text{C}$

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

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
Off Characteristics						
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	μA
Gate-Source leakage current	$V_{GS}=\pm 12V, V_{DS}=0V$	I_{GSS}			± 100	nA
On Characteristics						
Static drain-source on-resistance (note 3)	$V_{GS}=10V, I_D=5.8A$	$R_{DS(ON)}$			35	m Ω
	$V_{GS}=4.5V, I_D=5A$				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
Dynamic Characteristics (note 3,4)						
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	Ω
Switching Characteristics (note 3,4)						
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	
Drain-source diode characteristics and maximum ratings						
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

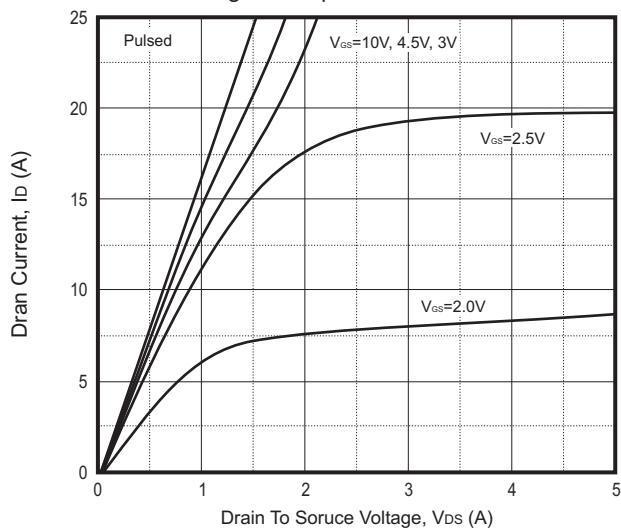


Fig.2 - Transfer Characteristics

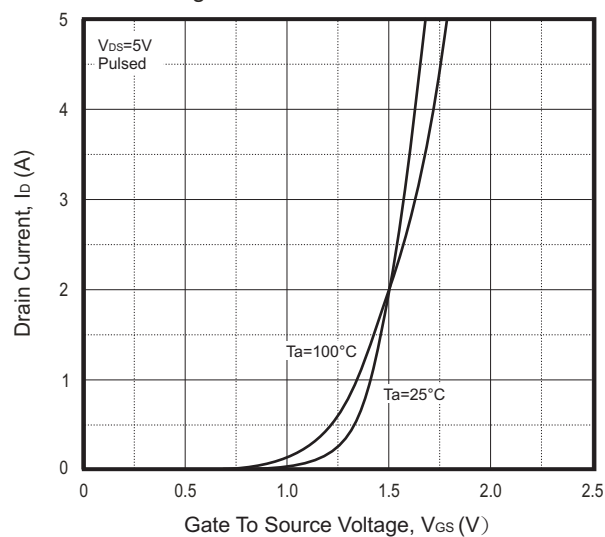


Fig.3 - $R_{DS(ON)}$ — I_D

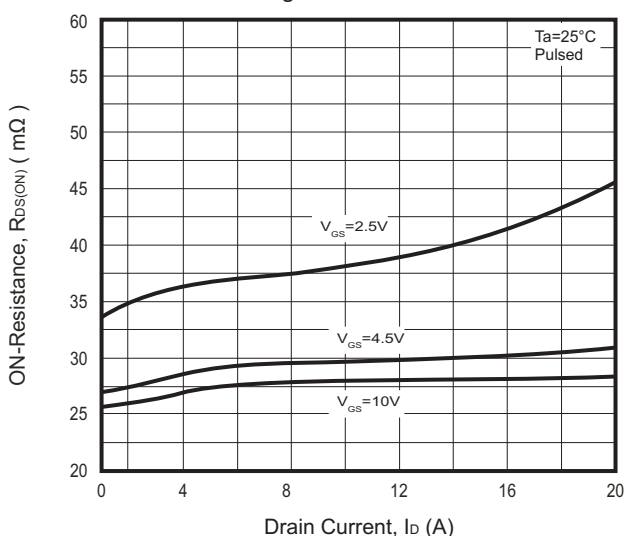


Fig.4- $R_{DS(ON)}$ — V_{GS}

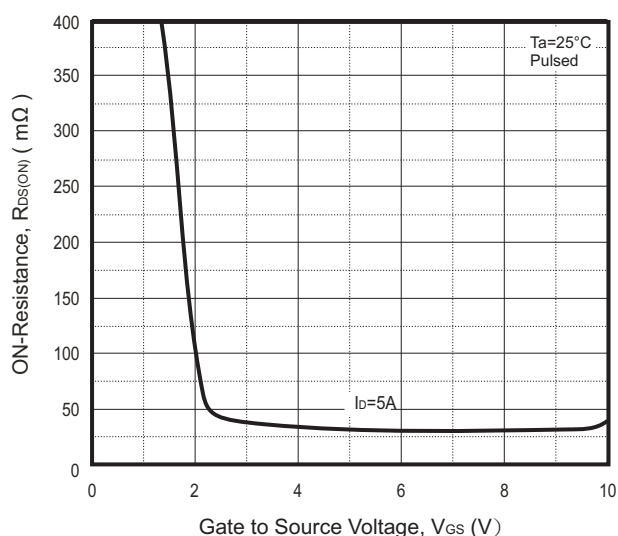


Fig.5 - I_S — V_{SD}

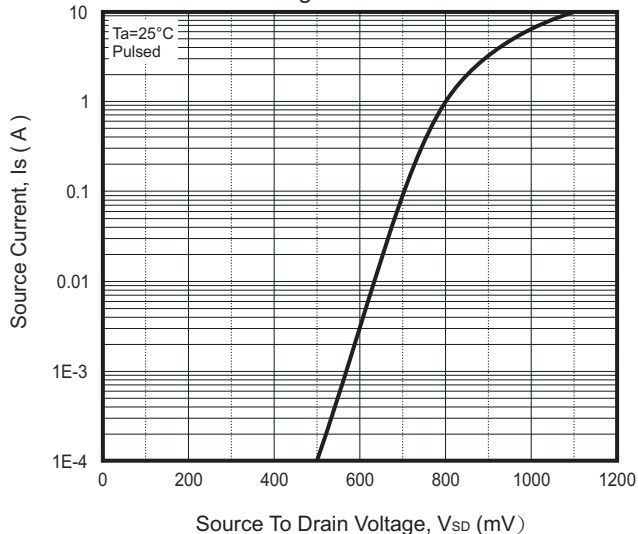
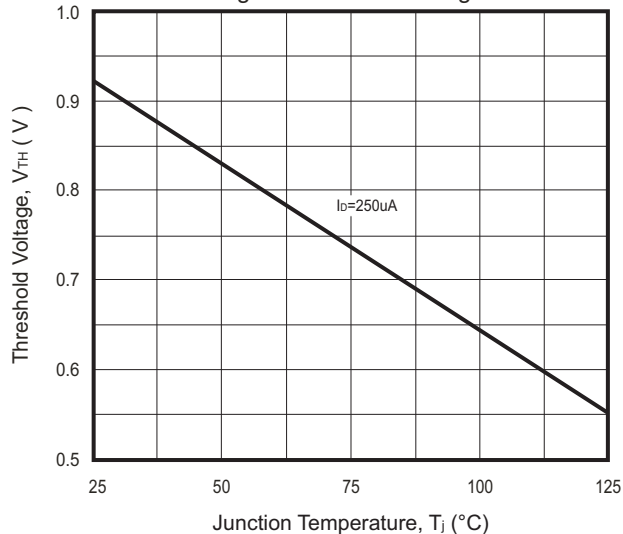
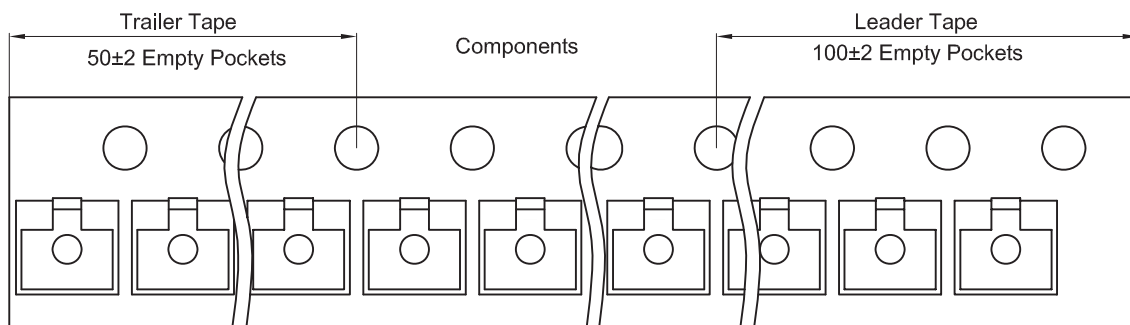
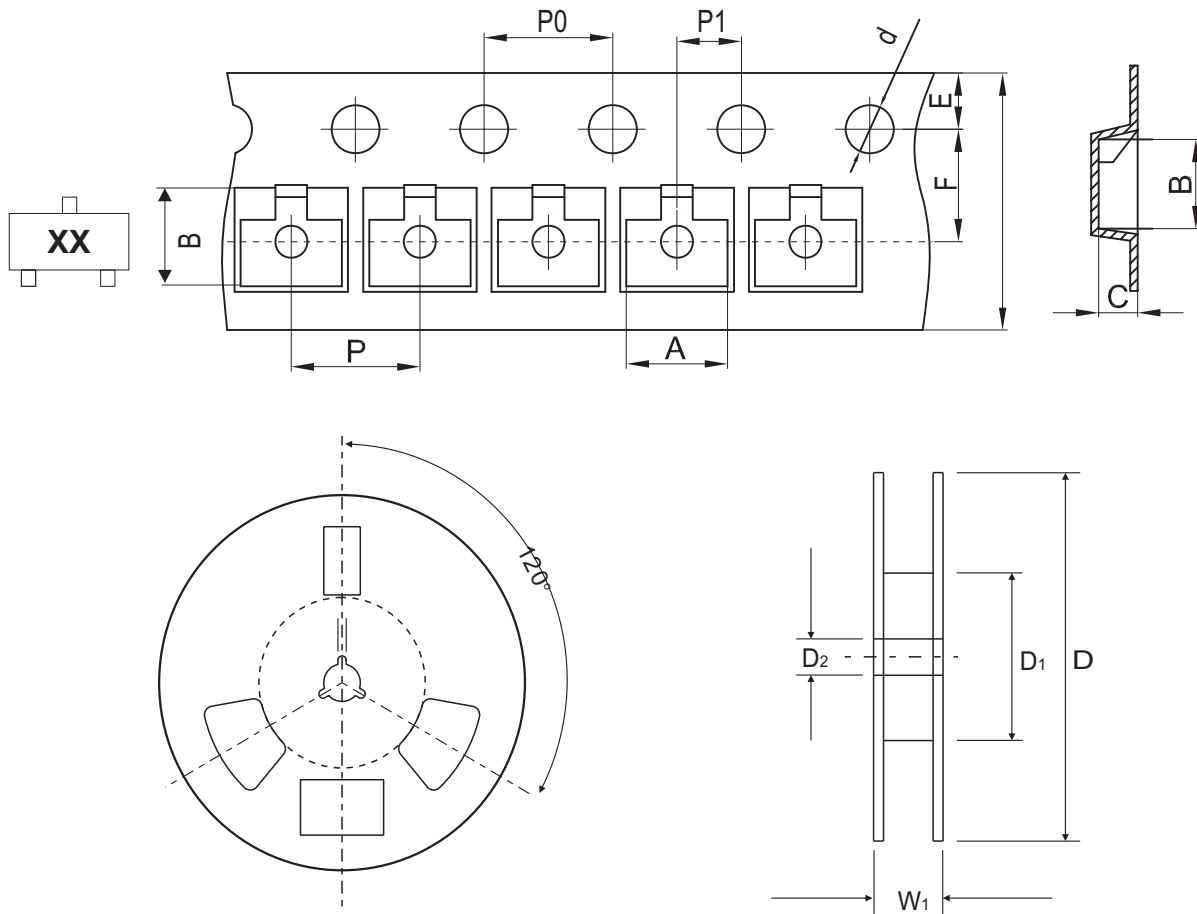


Fig.6 - Threshold Voltage



Reel Taping Specification

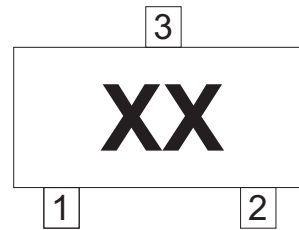


SOT-23	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	3.15 ± 0.10	2.77 ± 0.10	1.22 ± 0.10	1.50 ± 0.10	178.00 ± 2.00	54.40 ± 1.00	13.00 ± 1.00
	(inch)	0.124 ± 0.004	0.109 ± 0.004	0.048 ± 0.004	0.059 ± 0.004	7.008 ± 0.079	2.142 ± 0.039	0.512 ± 0.039

SOT-23	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

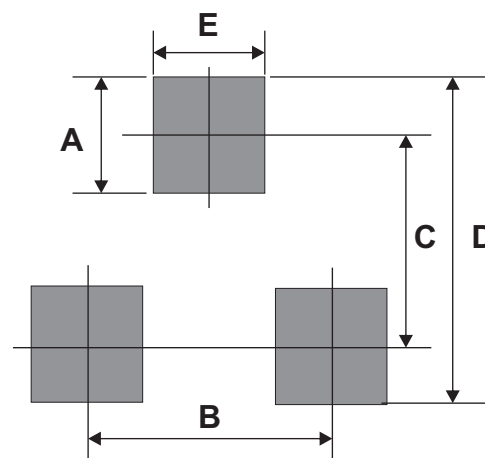
Part Number	Marking Code
CJ3400-HF	R0



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
E	0.60	0.024



Standard Packaging

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