100V Trench MOS Barrier Schottky VF 0.69V@10A, 25℃

Features

- Trench MOS schottky technology
- Low stored charge Majority Carrier Conduction
- Ultra low forward voltage drop
- Low leakage current
- Low power loss and high efficiency
- High surge capacity
- ESD rating:>20K volts

Product Summary

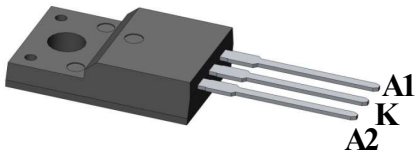
Symbol	Value
I_F(AV)	10A×2
V_{RRM}	100V
$V_{F(per\ diode)}$	0.69V
T_j(max)	150℃

Applications

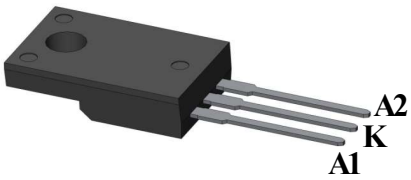
- Schottky rectifier design for high frequency switched mode power supplies, such as adaptators and on board DC/DC converters.

TO-220F

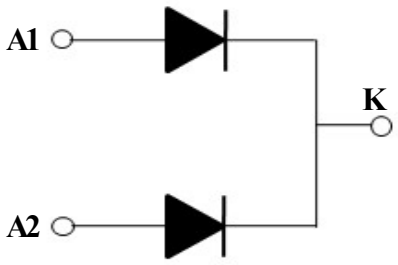
Top view



Bottom view



20Amperes, 100 Volts



Package Marking and Ordering Information

Part #	Marking	Package	Packing	Reel Size	Tape Width	Qty
CRRF20L100A	-	TO-220F	Tube	N/A	N/A	50pcs

Major Rating and Characteristics(per diode)

Parameter		Symbol	Value	Unit
Repetitive peak reverse voltage		V_{RRM}	100	V
Storage temperature range		T_J	-55 to 150	℃
Maximum average forward current 50 % duty cycle, rectangular waveform	Tc=125℃	I_F(AV)	10	A
Surge non repetitive forward current	8.3 ms sine	I_{FSM}	200	

Thermal Characteristics(at T_A=25℃ unless otherwise noted)

Parameter	Symbol	CRRF20L100A	Unit
Typical thermal resistance	R_{JA}	4.00	°C/W
	R_{JM}	0.20	

Electrical Characteristic (at T_A = 25 °C, unless otherwise note, per diode)

Parameter	Symbol	Value			Unit	Test Condition	
		min.	typ.	max.			
Forward Voltage Drop	V_F(1)	-	0.55	-	V	I_F=5A	T_A=25℃
		-	0.69	0.74		I_F=10A	
		-	0.53	-		I_F=5A	T_A=125℃
		-	0.65	0.70		I_F=10A	
Reverse leakage current	I_R(2)	-	-	50	uA	V_R=100V	T_A=25℃
			-	10	mA		T_A=125℃
Junction capacitance	C_j	-	466	-	pF	V_R=5V_{DC},25℃(1MHz)	

Notes

(1) Pulse test: pulse width ≤1mS, Duty Cycle≤2%

(2) Pulse test: pulse width ≤1mS, Duty Cycle≤2%

Characteristics Curves(T_A=25℃ unless otherwise noted, per diode)

Fig.1 Typical Forward Voltage Characteristics

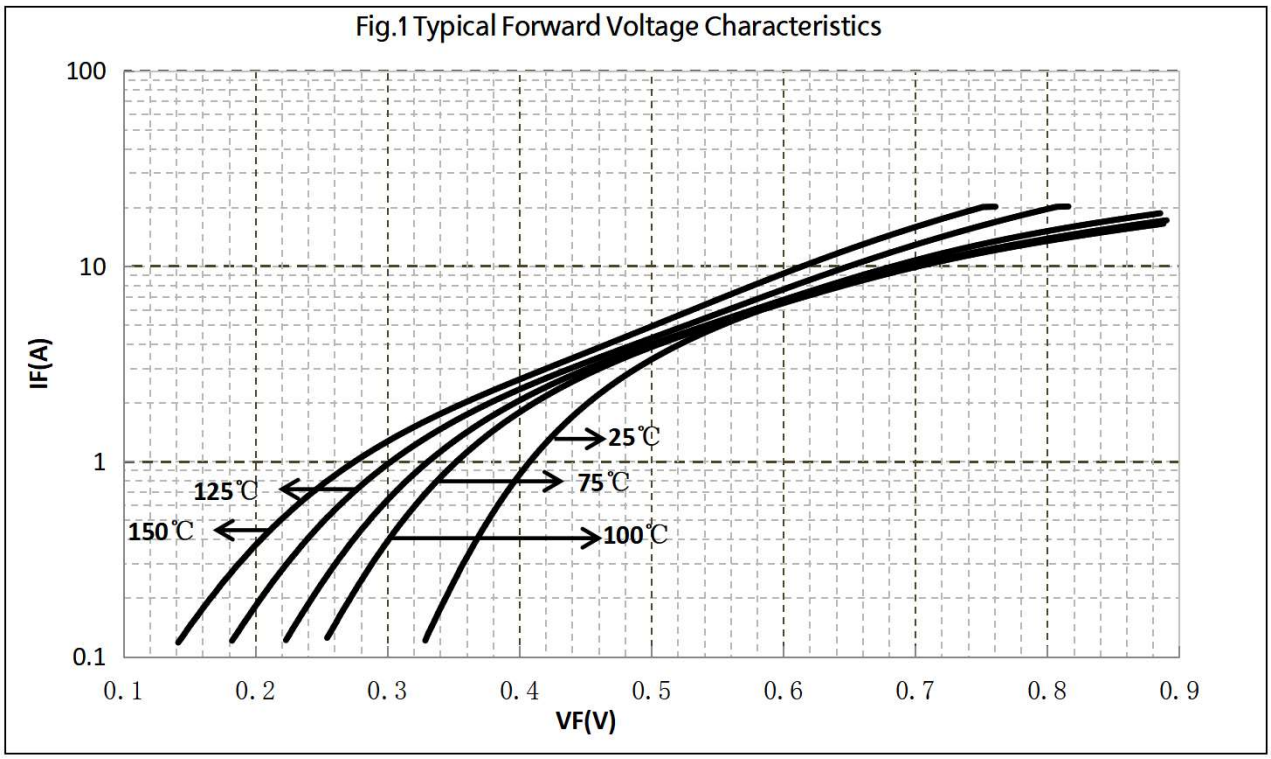
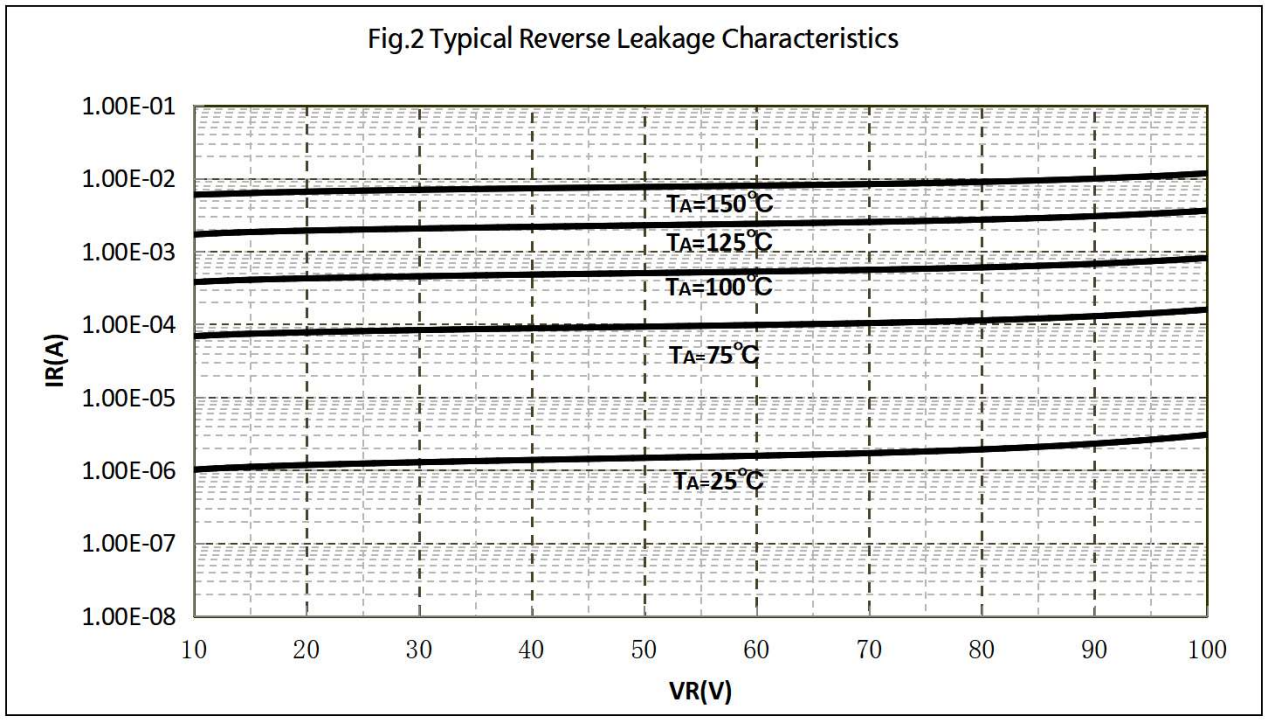
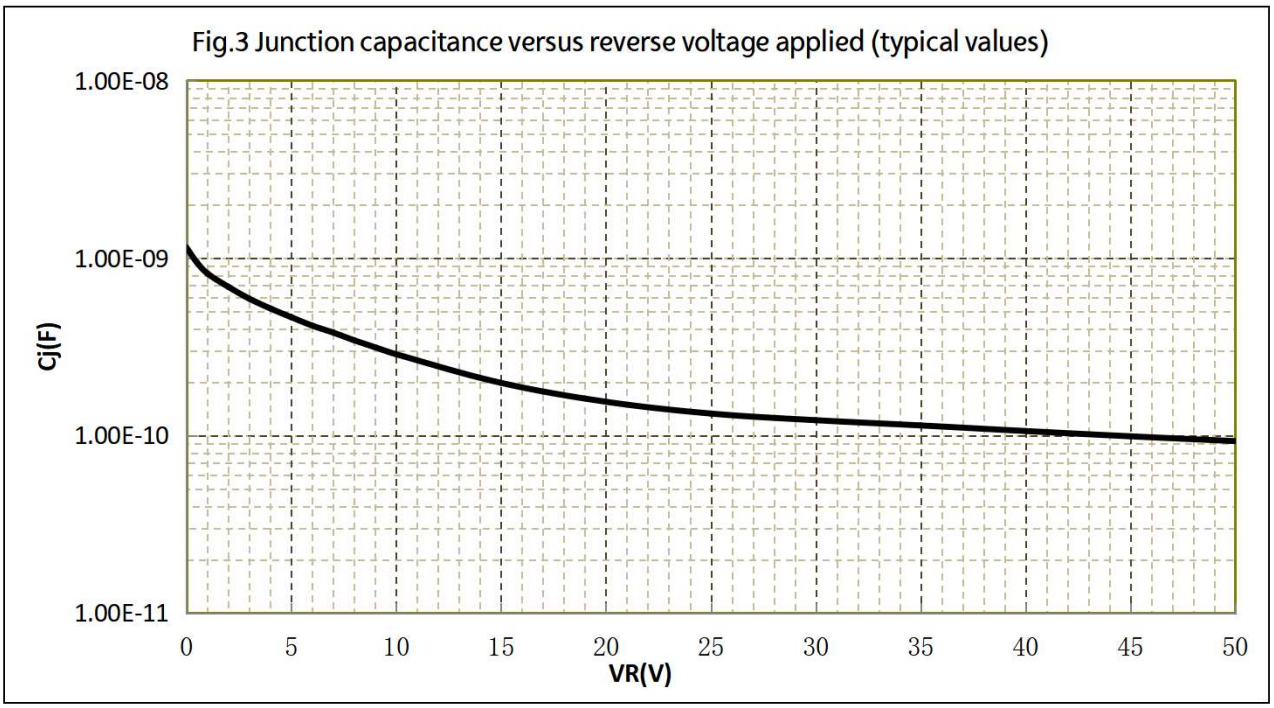
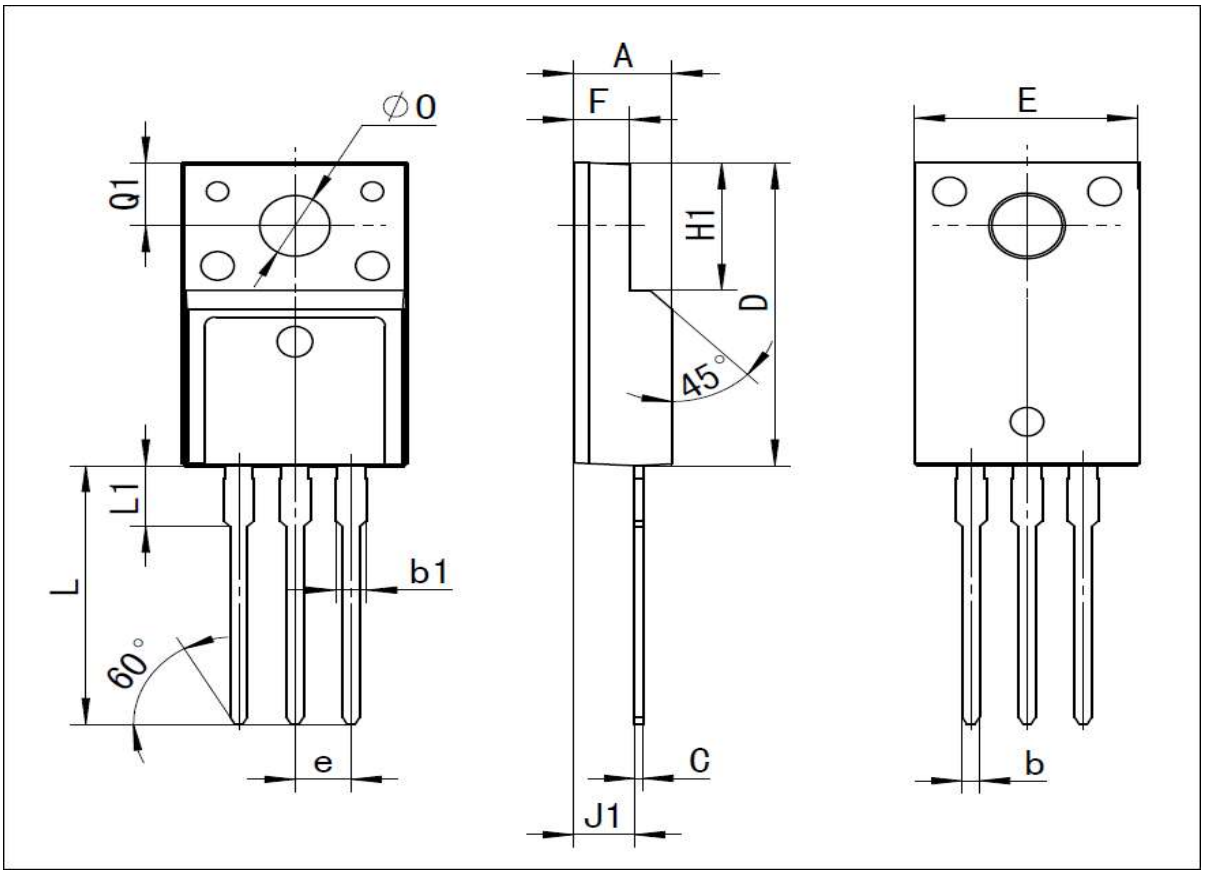


Fig.2 Typical Reverse Leakage Characteristics




Fig.3 Junction capacitance versus reverse voltage applied (typical values)
1.00E-08
1.00E-09
1.00E-10
1.00E-11
Cj(F)
0
5
10
15
20
25
30
35
40
45
50
VR(V)

Package Outline Dimensions



SYMBOL	INCHES		MINLLIMETERS		NOTES
	MIN	MAX	MIN	MAX	
A	0.178	0.194	4.53	4.93	
b	0.028	0.036	0.71	0.91	
C	0.018	0.024	0.45	0.6	
D	0.617	0.633	15.67	16.07	
E	0.392	0.408	9.96	10.36	
e	0.100 TYP		2.54 TYP		
H1	0.256	0.272	6.5	6.9	
J1	0.101	0.117	2.56	2.96	
L	0.503	0.519	12.78	13.18	
ΨQ	0.117	0.133	2.98	3.38	
b1	0.045	0.055	1.15	1.39	
L1	0.074	0.09	1.9	2.3	
Q1	0.122	0.138	3.1	3.5	
F	0.092	0.108	2.34	2.74	

Revision History

Revison	Date	Major changes
1.0	2018/2/9	Release of formal version

Disclaimer

Unless otherwise specified in the datasheet, the product is designed and qulified as a standard commercial product and is not intended for use in applications that require extraordinary levels of quality and reliability, such as automotive, aviation/aerospace and life-support devices or systems.

Any and all semicondutor products have certain probability to fail or malfunction, which may result in personal injury, death or property damage. Customer are solely responsible for providing adequate safe measures when design their systems.

CRM(CQ) reserves the right to improve product design, function and reliability without notice.