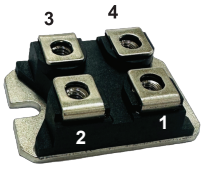
CSRI2×100-120P3B

SiC SCHOTTKY DIODE TYPE 2×100A

Features

- High surge current capable
- Zero reverse recovery
- Zero forward recovery
- Isolation type package
- Temperature independent switching behavior
- V_{DC} 1200 V
- I_F (T_c<135°C) 2×100 A

SOT-227

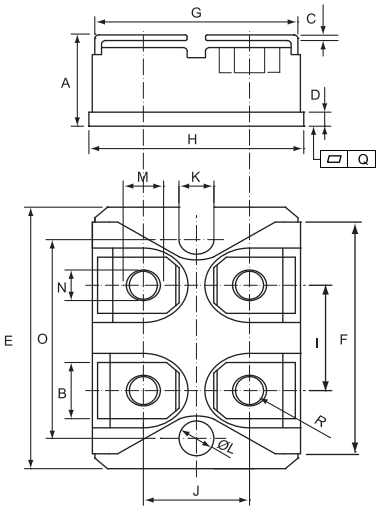


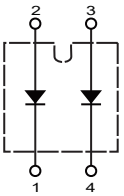
Benefits

- Unipolar rectifier
- Smaller heat sink
- Higher efficiency

Applications

- Motor drives
- Switch mode power supplies
- Ev chargers
- Solar inverters
- Welding equipment
- Power factor correction
- Diode snubber
- Automotive
- induction heating





parallel

Maximum Ratings

Operating Junction Temperature : -55°C to +175°C

Storage Temperature : -55°C to +175°C

Part Number	Maximum Recurrent Peak Reverse Voltage	Maximum DC Blocking Voltage
CSRI2×100-120P3B	1200V	1200V

Maximum Rating	Symbol	Conditions	Value	Unit
Continuous forward current (per diode)	I_F	T_C=135 °C	100	A
Surge non-repetitive forward current sine halfwave (per diode)	I_{FSM}	T_C=25 °C, t_p=8.3 ms	800	
		T_C=150 °C, t_p=8.3 ms	500	
Non-repetitive peak forward current (per diode)	$I_{F,max}$	T_C=25 °C, t_p=10 μs	3200	
		T_C=150 °C, t_p=10 μs	2000	
Repetitive peak reverse voltage	V_{RRM}	T_j=25 °C	1200	V
Isolation voltage (between All Terminals and Baseplate)	V_{iso}	50/60 Hz, t=1min I_{ISOL} ≤ 1mA	2500	V
Mounting torque	Md	To heatsink	1.3	Nm
		To terminal	1.1	

DIMENSIONS				
	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.460	0.483	11.68	12.28
B	0.307	0.323	7.80	8.20
C	0.030	0.033	0.75	0.85
D	0.071	0.081	1.80	2.05
E	1.488	1.504	37.80	38.20
F	1.248	1.260	31.70	32.00
G	0.917	0.957	23.30	24.30
H	0.996	1.008	25.30	25.60
I	0.579	0.602	14.70	15.30
J	0.492	0.516	12.50	13.10
K	0.161	0.169	4.10	4.30
L	0.161	0.169	4.10	4.30
M	0.181	0.197	4.60	5.00
N	0.165	0.181	4.20	4.60
O	1.181	1.197	30.00	30.40
Q	-0.002	0.004	-0.05	0.10
R	M4*8			

Electrical Characteristics, at T_j =25 °C, unless otherwise specified. (per diode)

Static Characteristics	Symbol	Conditions	Values			Unit
			min.	typ.	max.	
DC blocking voltage	V_{DC}		1,200	-	-	V
Diode forward voltage	V_F	I_F =100A, T_J =25 °C	-	1.5	1.7	V
		I_F =100A, T_J =175 °C	-	2.2	2.5	
Reverse current	I_R	V_R =1,200V, T_J =25 °C	-	60	100	μA
		V_R =1,200V, T_J =175 °C	-	100	500	

AC Characteristics (per diode)

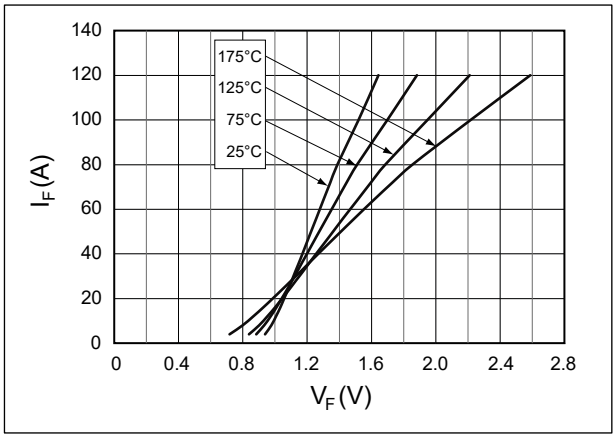
Characteristics	Symbol	Conditions	Values			Unit
			min.	typ.	max.	
Total capacitive charge	Q_{rr}	di/dt =1100A/μs I_F = 100A, V_R =800V	-	410	-	nC
Total capacitance	C	V_R=0V, f=100KHz T_J =25 °C	-	5,790	-	pF
		V_R=400V, f=100KHz T_J =25 °C	-	460	-	
		V_R=800V, f=100KHz T_J =25 °C	-	327	-	

Thermal Characteristics (per diode)

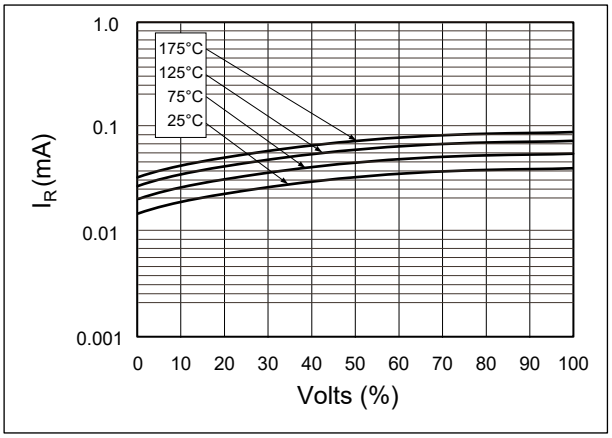
Characteristics	Symbol	Values	Unit
		typ.	
Thermal resistance from junction to case	$R_{\theta JC}$	0.14	°C/W

Typical Performance

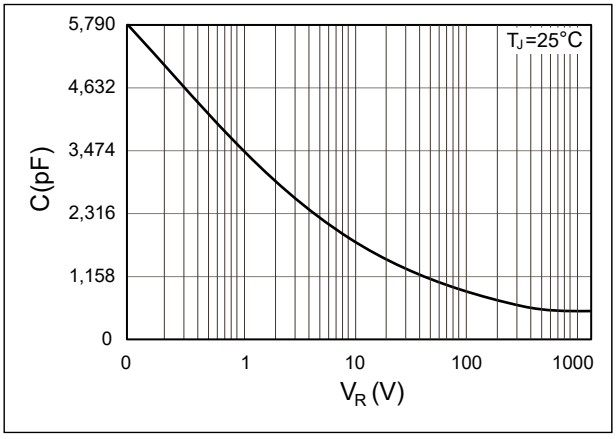
Forward Characteristics (parameterized on T_j)



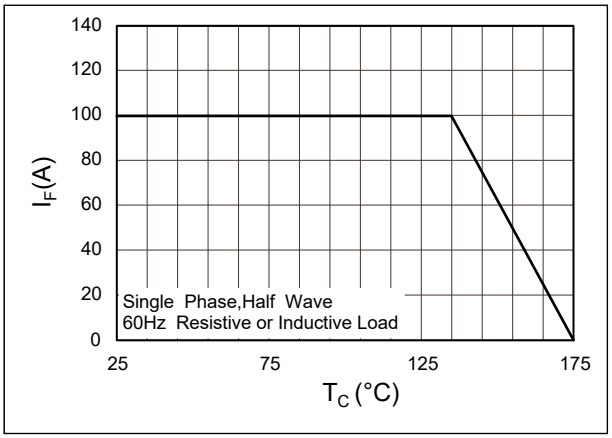
Reverse Characteristics (parameterized on T_J)



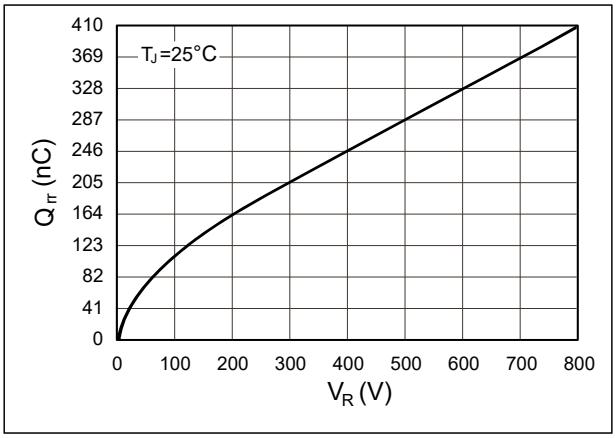
Capacitance



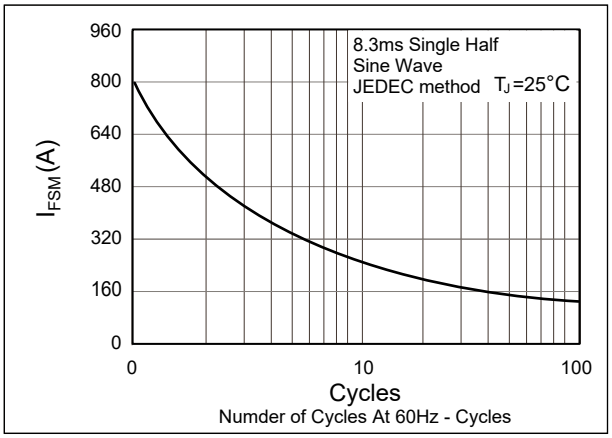
Current Derating



Recovery Charge



Forward Surge Current



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