CSRI2×50-120

DACO SEMICONDUCTOR CO., LTD.

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SiC SCHOTTKY DIODE TYPE 2×50A

Features

- High surge current capable
- Zero reverse recovery current
- High bandwidth
- Isolation type package
- Temperature Independent Switching Behavior
- VDC 1200 V
- I_F (T_C<135°C) 2×50 A

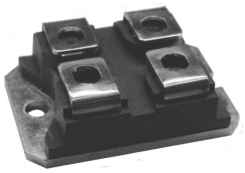
Benefits

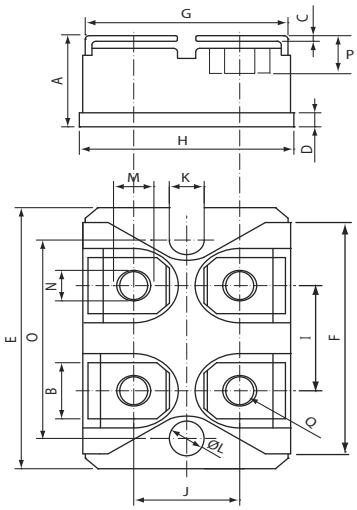
- Unipolar rectifier
- Zero switching loss
- Higher efficiency
- Smaller heat sink
- Parallel devices without thermal runaway

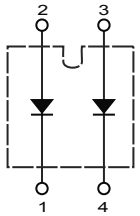
Applications

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

SOT-227







CSRI | 2X50 | - | XXX

Maximum Ratings

Operating Junction Temperature : - 55 ℃ to +175 ℃

Storage Temperature : -55 ℃ to +175 ℃

Part Number	Maximum Recurrent Peak Reverse Voltage	Maximum DC Blocking Voltage
CSRI2×50-120	1200V	1200V

Maximum Rating	Symbol	Conditions	Value	Unit
Continuous forward current (per leg)	I_F	T_C=135 °C	50	A
Surge non-repetitive forward current sine halfwave (per leg)	I_{FSM}	T_C=25 °C, t_p=8.3 ms	400	
		T_C=150 °C, t_p=8.3 ms	250	
Non-repetitive peak forward current (per leg)	$I_{F,max}$	T_C=25 °C, t_p=10 μs	1600	
		T_C=150 °C, t_p=10 μs	1000	
Repetitive peak reverse voltage	V_{RRM}	T_j=25 °C	1200	V
Isolation voltage	V_{iso}	50/60 Hz, RMS I_{ISOL} 1 ≤ mA	2500	V
Mounting torque		M4 Screw	1.1	N-m

DIMENSIONS				
DIM	INCHES		MM	
	MIN	MXA	MIN	MXA
A	.500	.519	12.70	13.60
B	.307	.322	7.80	8.20
C	.029	.033	.75	.84
D	.073	.082	1.85	2.10
E	1.487	1.502	37.80	38.20
F	1.250	1.258	31.75	32.00
G	.931	.956	23.65	24.30
H	.996	1.007	25.30	25.60
I	.586	.594	14.90	15.10
J	.492	.516	12.50	13.10
K	.161	.169	4.10	4.30
L	.161	.169	4.10	4.30
M	.181	.191	4.60	4.95
N	.165	.177	4.20	4.50
O	1.184	1.192	30.10	30.30
P	.217	.244	5.50	6.20
Q	M4*8			

Jun 2017

SEMIC TRADE

Semic Trade, s.r.o., Volutová 2521/18, 158 00 Praha 5
Telephone: +420 251 625 331, 251 625 332, 251 625 377
GSM: +420 605 999 994 Fax:+420 251 626 252, 251 626 393

www.semic.cz
semic@semic.cz

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

Static Characteristics	Symbol	Conditions	Values			Unit
			min.	typ.	max.	
DC blocking voltage	V_{DC}		1,200	-	-	V
Diode forward voltage	V_F	I_F =50A, T_j =25 °C	-	1.5	1.7	V
		I_F =50A, T_j =25 °C	-	1.6	1.8	
		I_F =50A, T_j =175 °C	-	2.4	2.9	
Reverse current	I_R	V_R =1,200V, T_j =25 °C	-	3.6	181	μA
		V_R =1,200V, T_j =175 °C	-	230	2,300	

AC Characteristics (per leg)

Static Characteristics	Symbol	Conditions	Values			Unit
			min.	typ.	max.	
Total capacitive charge	Q_{rr}	V_R=1,200V, T_j=25 °C	-	155	-	nC
Total capacitance	C	V_R=0V, f=1 MHz T_j=25 °C	-	2,800	-	pF
		V_R=600V, f=1 MHz T_j=25 °C	-	280	-	
		V_R=1,000V, f=1 MHz T_j=25 °C	-	252	-	

Thermal Characteristics (per leg)

Static Characteristics	Symbol	Values	Unit
		typ.	
Thermal resistance from junction to case	$R_{\theta JC}$	0.28	°C/W

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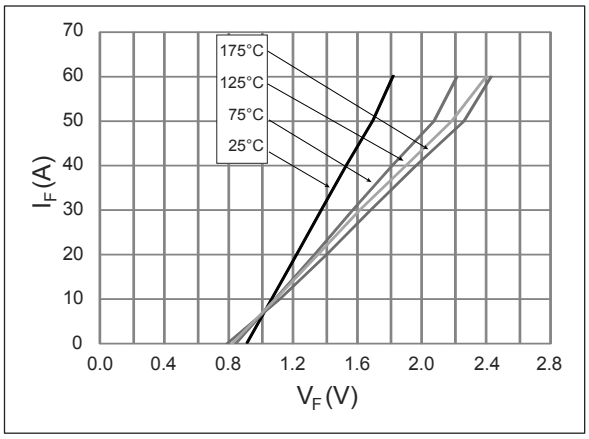
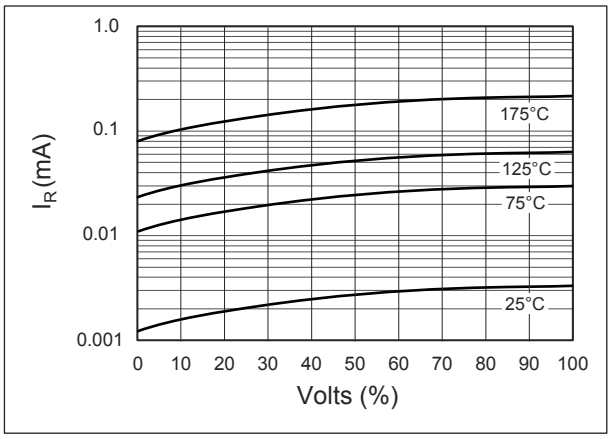
Typical Performance

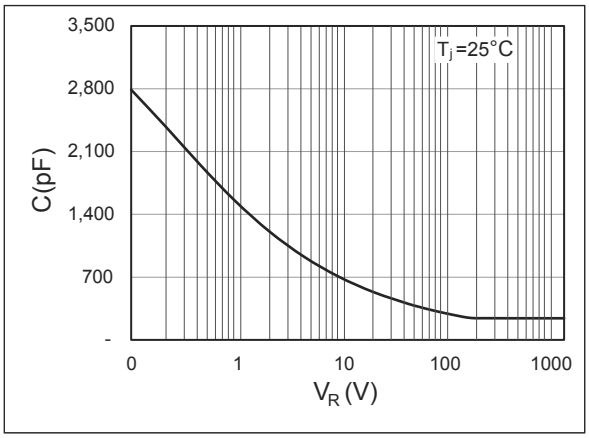
Forward Characteristics (parameterized on T_j)



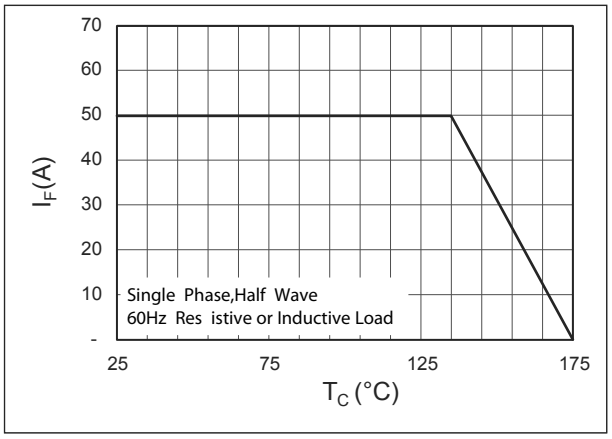
Reverse Characteristics (parameterized on Tj)



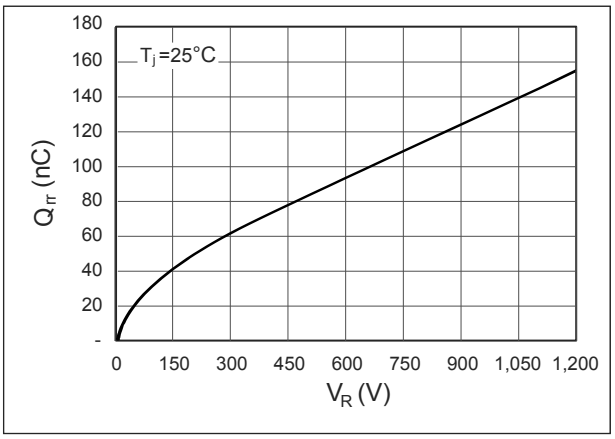
Capacitance



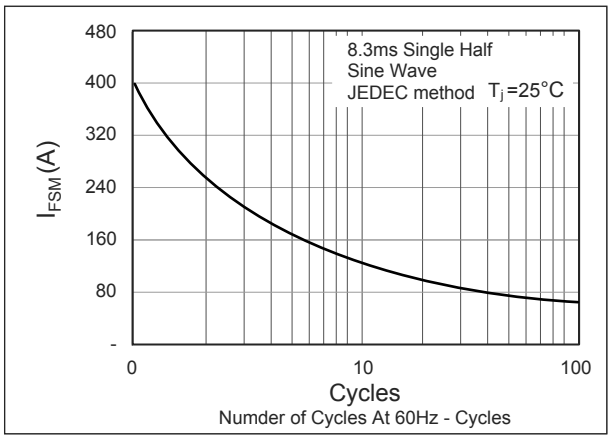
Current Derating



Recovery Charge



Forward Surge Current



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