



SiC SCHOTTKY DIODE TYPE 2×300A

Features

Preliminary

- High surge current capable
- Zero reverse recovery current
- High bandwidth
- Temperature Independent Switching Behavior
- VDC 1200 V
- I_F ($T_C < 135^\circ\text{C}$) 2×300 A

Benefits

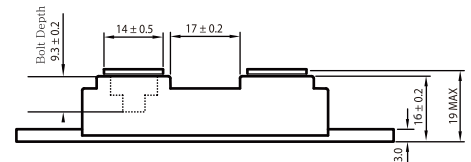
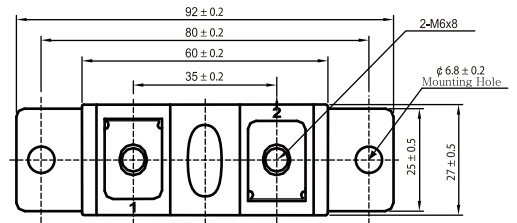
- Unipolar rectifier
- Zero switching loss
- Higher efficiency
- Smaller heat sink
- Parallel devices without thermal runaway

Applications

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



Dimensions in mm (1 mm = 0.0394")



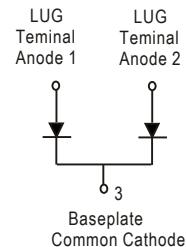
Maximum Ratings

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
DACSB600120CT	1200V	1200V

Maximum Rating	Symbol	Conditions	Value	Unit
Continuous forward current (per leg)	I_F	$T_C = 135^\circ\text{C}$	300	A
Surge non-repetitive forward current sine halfwave (per leg)	I_{FSM}	$T_C = 25^\circ\text{C}, t_p = 8.3\text{ ms}$	2400	
		$T_C = 150^\circ\text{C}, t_p = 8.3\text{ ms}$	1750	
Non-repetitive peak forward current (per leg)	$I_{F,max}$	$T_C = 25^\circ\text{C}, t_p = 10\ \mu\text{s}$	11200	
		$T_C = 150^\circ\text{C}, t_p = 10\ \mu\text{s}$	7000	
Repetitive peak reverse voltage	V_{RRM}	$T_J = 25^\circ\text{C}$	1200	V
Mounting torque		M6 Screw	3~4.7	N-m





Electrical Characteristics, at $T_j=25\text{ }^\circ\text{C}$, 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	$I_F=300\text{A}$, $T_j=25\text{ }^\circ\text{C}$	-	1.6	1.8	
		$I_F=300\text{A}$, $T_j=175\text{ }^\circ\text{C}$	-	2.4	2.9	
Reverse current	I_R	$V_R=1,200\text{V}$, $T_j=25\text{ }^\circ\text{C}$	-	10	130	μA
		$V_R=1,200\text{V}$, $T_j=175\text{ }^\circ\text{C}$	-	140	1,400	

AC Characteristics (per leg)

Static Characteristics	Symbol	Conditions	Values			Unit
			min.	typ.	max.	
Total capacitive charge	Q_{rr}	$V_R=1,200\text{V}$, $T_j=25\text{ }^\circ\text{C}$	-	926	-	nC
Total capacitance	C	$V_R=0\text{V}$, $f=1\text{ MHz}$ $T_j=25\text{ }^\circ\text{C}$	-	16,680	-	pF
		$V_R=600\text{V}$, $f=1\text{ MHz}$ $T_j=25\text{ }^\circ\text{C}$	-	1,657	-	
		$V_R=1,000\text{V}$, $f=1\text{ MHz}$ $T_j=25\text{ }^\circ\text{C}$	-	1,551	-	

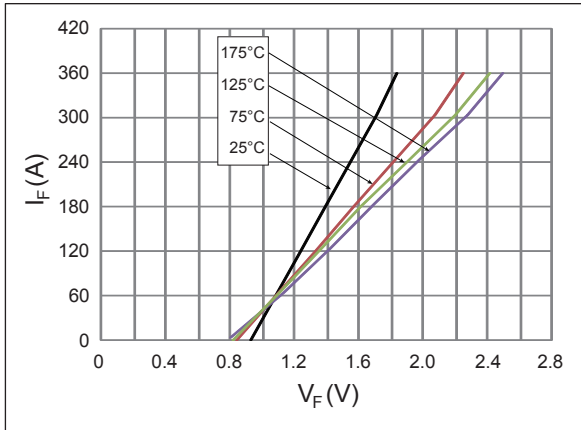
Thermal Characteristics (per leg)

Static Characteristics	Symbol	Values	Unit
		typ.	
Thermal resistance from junction to case	$R_{\theta JC}$	0.023	$^\circ\text{C/W}$

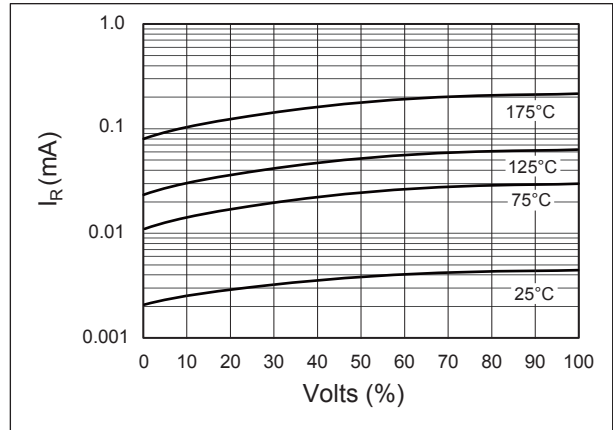


Typical Performance

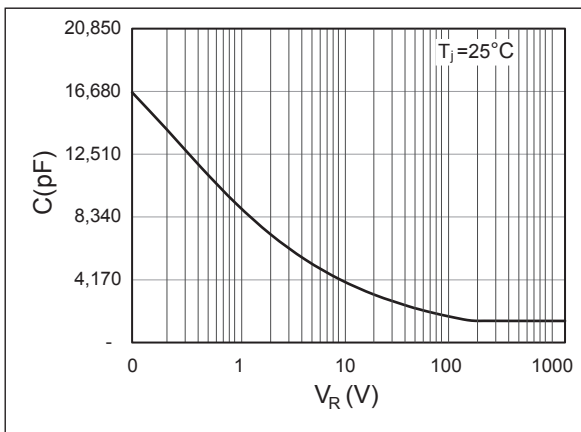
Forward Characteristics (parameterized on T_j)



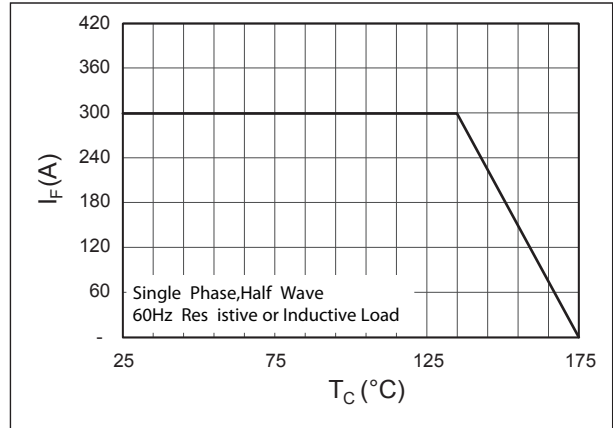
Reverse Characteristics (parameterized on T_j)



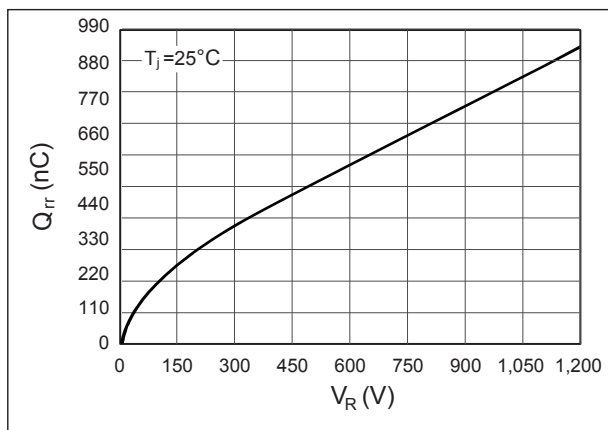
Capacitance



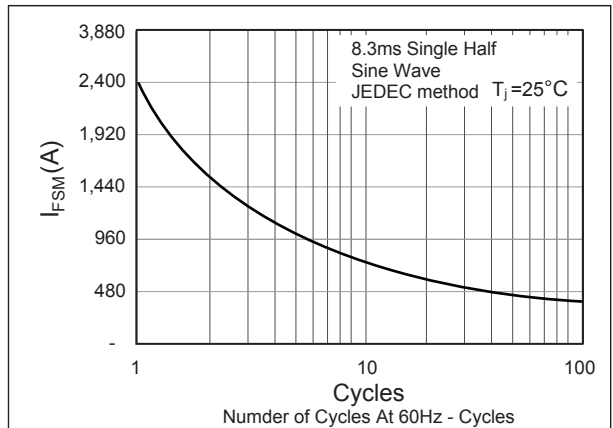
Current Derating



Recovery Charge



Forward Surge Current





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