

KEY FEATURES

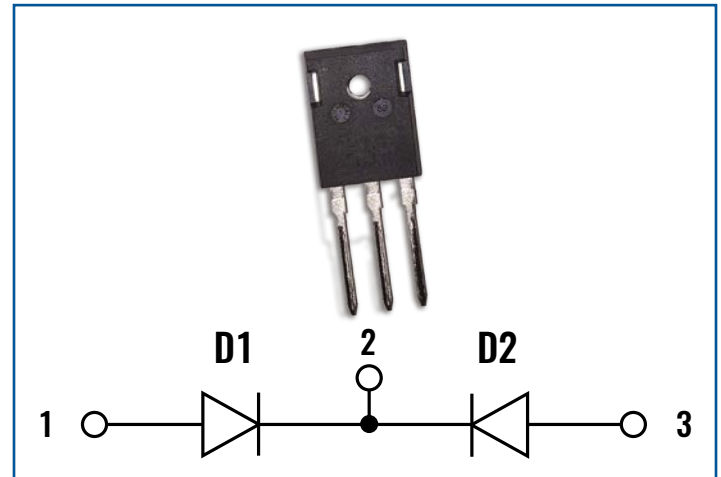
- V_{RRM} 1200V
- I_F @ 125°C 10A
- SMALL FOOTPRINT
- ZERO REVERSE RECOVERY
- PLASTIC COTS PACKAGING

BENEFITS

- COMPACT, LIGHTWEIGHT DESIGN
- INCREASED POWER DENSITY

APPLICATIONS

- AEROSPACE
- HIGH EFFICIENCY CONVERTERS & MOTOR DRIVES
- POWER SUPPLIES



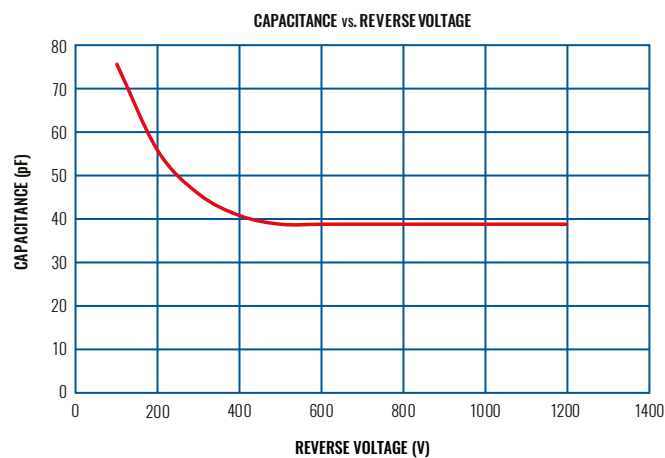
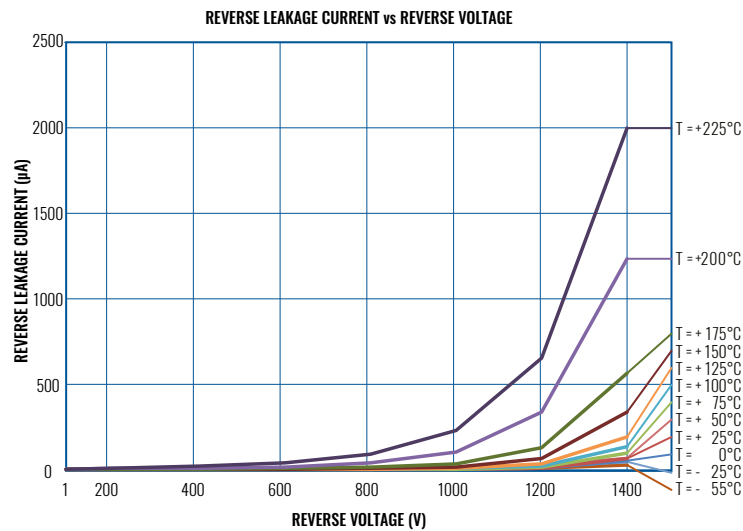
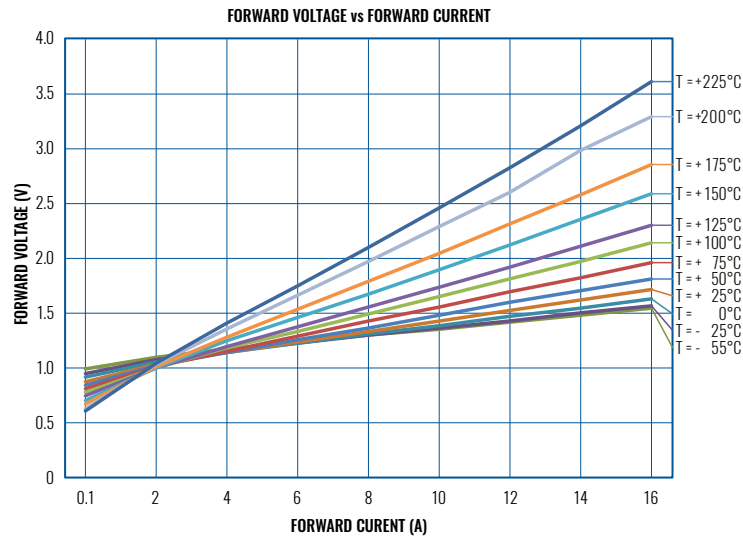
ORDERING GUIDE

Part Number	SDD10120AD
Description	Dual 1200V Silicon Carbide Diode

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	VALUE	TEST CONDITIONS
Max D.C. Reverse Voltage	V_R	1200V	
Repetitive Peak Voltage	V_{RRM}	1200V	
Surge Peak Reverse Voltage	V_{RSM}	1200V	
DC Blocking Voltage	V_{DC}	1200V	
DC Forward Current	$I_{F(avg)}$	10A/20A 10A/20A	$T_C = 25^\circ\text{C}$ $T_C = 125^\circ\text{C}$
Repetitive Peak Forward Current	I_{FRM}	44A/88A tbd	$T_C = 125^\circ\text{C}$, $t_p = 10\text{ms}$, Half Sine Pulse
Non-Repetative Forward Surge Current	I_{FSM}	43A/89A 33A/66A	$T_C = 25^\circ\text{C}$, $t_p = 8.3\text{ms}$, Half Sine Pulse $T_C = 150^\circ\text{C}$, $t_p = 8.3\text{ms}$, Half Sine Pulse
Power Dissipation	P_D	16W 19W	$T_C = 25^\circ\text{C}$ $T_C = 125^\circ\text{C}$
Maximum Case Temperature	$T_{C(max)}$	175°C	
Maximum Junction Temperature	$T_{J(max)}$	200°C	
Operating Temperature Range	T	-55°C to +175°C	
Storage Temperature Range	T_{STG}	-55°C to +175°C	
Lead Temperature for 10 Seconds	T_L	260°C	

TYPICAL PERFORMANCE CURVES



ELECTRICAL SPECIFICATIONS

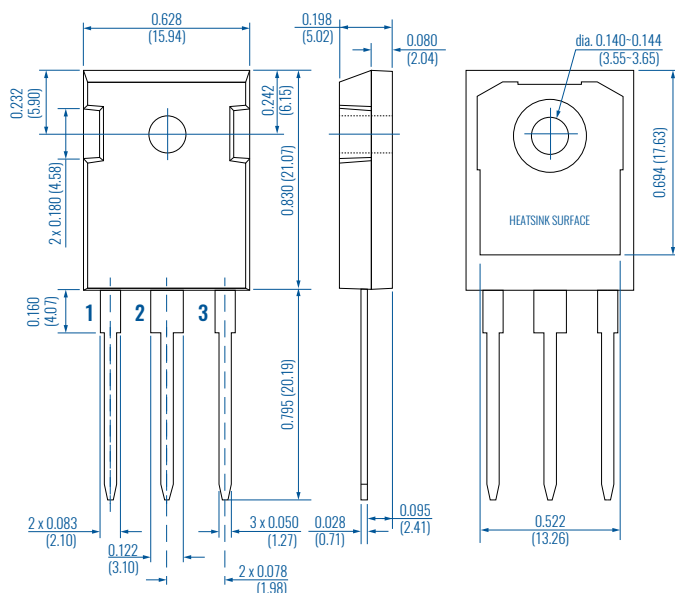
Typical @ 25°C unless otherwise noted

Parameter		Symbol	Min.	Typ.	Max.	Unit
DC Blocking Voltage		V _{DC}	1200	1300		V
Forward Voltage	I _F = 10A, T _J = 25°C	V _F		1.4		V
	I _F = 10A, T _J = 125°C		1.7		V	
Reverse Current	V _R = 1400V, T _J = 25°C	I _{RM}		12	200	μA
	V _R = 1400V, T _J = 125°C		80	1000	μA	
Total Capacitive Charge	I _F = 10A/20A	Q _C		19/54		nC
Total Capacitance	100V, f = 1MHz	C		77		pF
	200V, f = 1MHz			56		
	400V, f = 1MHz			41		
	600V, f = 1MHz			39		
	800V, f = 1MHz			39		
	1000V, f = 1MHz			39		
Switching Time	I _F = 10A	T _{rr}		20		ns

THERMAL AND MECHANICAL CHARACTERISTICS

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance, Junction to Case	R _{θ(JC)}		1.7		°C/W
Weight	W	6.1		6.8	g
Mounting Torque	M _s		1.4	1.76	N-m

PACKAGE OUTLINE - TO-247-3L



PIN DESCRIPTION

Pin	Description
1	Anode 1
2	Cathode
3	Anode 2

SCHEMATIC

