

#### KEY FEATURES

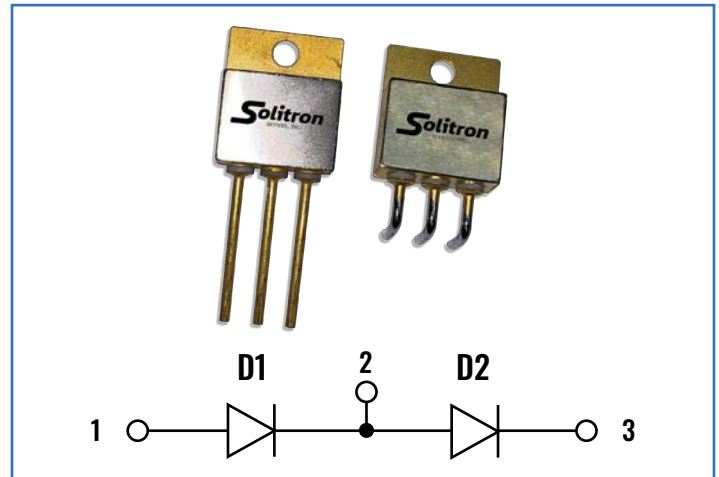
- NO REVERSE RECOVERY / NO FORWARD RECOVERY
- NEAR ZERO SWITCH LOSS
- SWITCHING BEHAVIOR INDEPENDENT OF TEMPERATURE
- 200°C OPERATING TEMPERATURE
- ISOLATED CASE
- HERMETIC PACKAGE
- TX, TXV AND SPACE LEVEL SCREENING AVAILABLE

#### BENEFITS

- PARALLEL DEVICES WITHOUT THERMAL RUNAWAY
- HIGHER EFFICIENCY
- SMALLER HEAT SINK
- IDEAL FOR EXTREME ENVIRONMENT APPLICATIONS

#### APPLICATIONS

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



#### ORDERING GUIDE

**Part Number** SD11812  
**Description** 1200V Silicon Carbide Doubler Diode

#### ABSOLUTE MAXIMUM RATINGS ( $T_c = +25^\circ\text{C}$ unless otherwise specified)

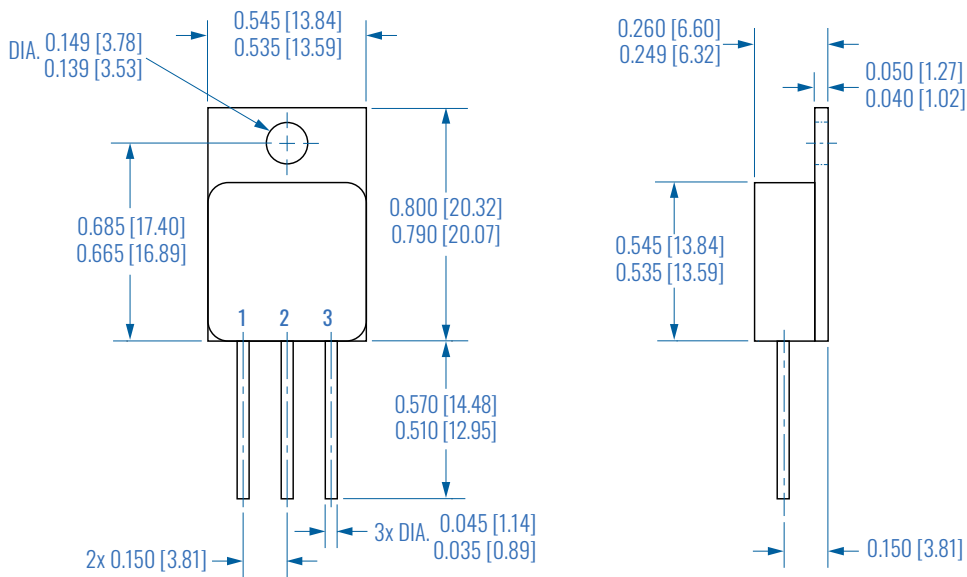
PARAMETER	SYMBOL	VALUE	TEST CONDITIONS
Max D.C. Reverse Voltage	$V_R$	1200V	
DC Forward Current	$I_{F(avg)}$	20A	$T_c = 65^\circ\text{C}$
Repetitive Peak Forward Current	$I_{FRM}$	50A	$t_p=8.3\text{ms}$ , Sine per leg
Non-Repetative Forward Surge Current	$I_{FSM}$	250A	$t_p=10\mu\text{s}$ , Pulse per leg
Power Dissipation	$P_D$	40W	
Thermal Resistance	$R_{\theta JC}$	1.00°C/W	
Maximum Junction Temperature	$T_{J(max)}$	+175°C	
Operating Temperature Range	T	-55°C to +200°C	
Storage Temperature Range	$T_{STG}$	-55°C to +200°C	

#### ELECTRICAL SPECIFICATIONS

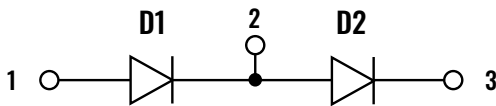
Typical @ 25°C unless otherwise noted

Parameter	Symbol	Min.	Typ.	Max.	Unit
Forward Voltage	$V_F$		$I_F = 10A$ per leg, $T_J = 25^\circ C$	1.6	V
			$I_F = 10A$ per leg, $T_J = 175^\circ C$	2.5	3.0
Reverse Current	$I_{RM}$		$V_R = 1200V$ per leg, $T_J = 25^\circ C$	10	$\mu A$
			$V_R = 1200V$ per leg, $T_J = 175^\circ C$	20	200
Total Capacitive Charge	$Q_C$		60		nC
Total Capacitance	$C$		70		pF

#### PACKAGE OUTLINE - TO-254



#### SCHEMATIC



#### PIN DESCRIPTION

Pin	Description
1	Cathode 1
2	Anode 1 / Cathode 2
3	Anode 2