SD11812

1200V Silicon Carbide Dual Schottky Doubler Diode - 1

KEY FEATURES

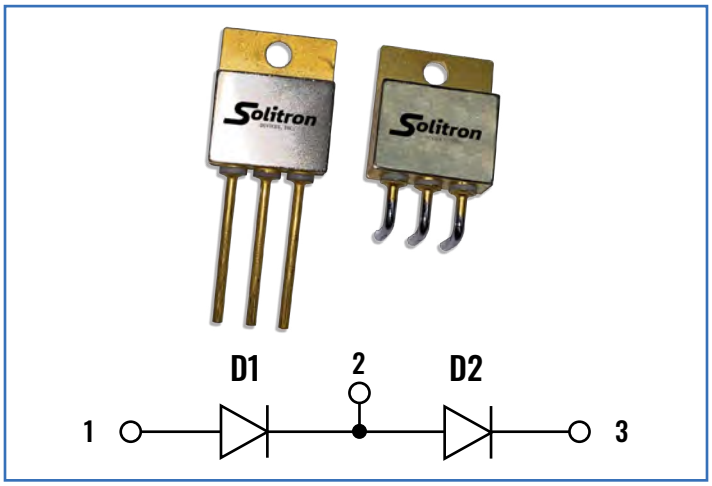
- NO REVERSE RECOVERY / NO FORWARD RECOVERY
- NEAR ZERO SWITCH LOSS
- SWITCHING BEHAVIOR INDEPENDENT OF TEMPERATURE
- 200°C OPERATING TEMPERATURE
- ISOLATED CASE
- HERMETIC PACKAGE
- TX, TXV AND SPACE LEVEL SCREENING AVAILABLE

BENEFITS

- PARALLEL DEVICES WITHOUT THERMAL RUNAWAY
- HIGHER EFFECIENCY
- 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°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°C
Repetitive Peak Forward Current	I_{FRM}	50A	tp=8.3ms, Sine per leg
Non-Repetative Forward Surge Current	I_{FSM}	250A	tp=10µs, 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	

SD11812

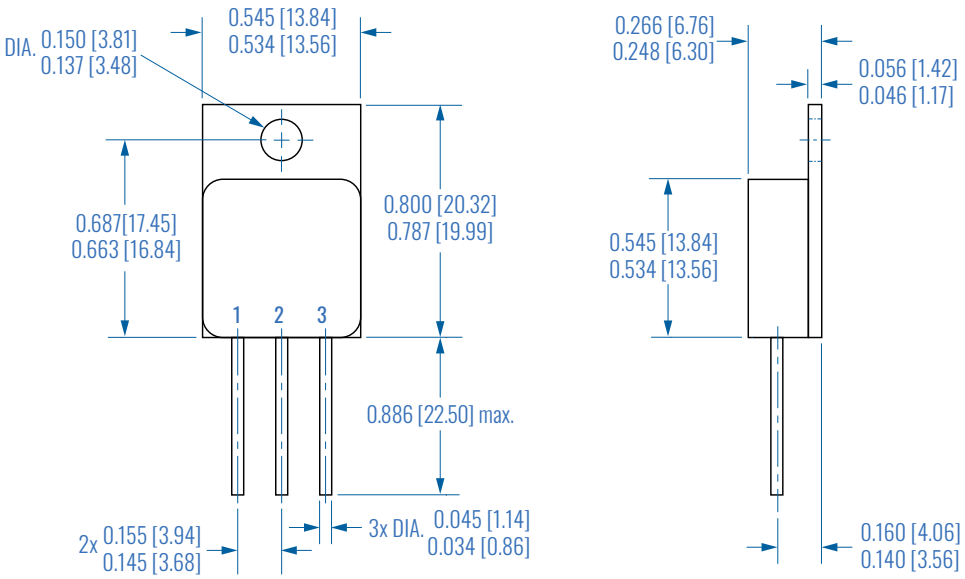
1200V Silicon Carbide Dual Schottky Doubler Diode - 2

ELECTRICAL SPECIFICATIONS

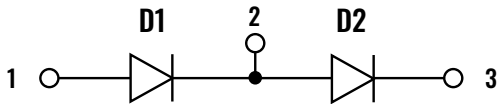
Typical @ 25°C unless otherwise noted

Parameter		Symbol	Min.	Typ.	Max.	Unit
Forward Voltage	I_F = 10A per leg, T_J = 25°C I_F = 10A per leg, T_J = 175°C	V_F		1.6 2.5	1.8 3.0	V V
Reverse Current	V_R = 1200V per leg, T_J = 25°C V_R = 1200V per leg, T_J = 175°C	I_{RM}		10 20	200 1000	µA µA
Total Capacitive Charge	I_F = 10A per leg, di/dt = 500A/µs	Q_C		60		nC
Total Capacitance	V_R = 400V per leg	C		70		pF

PACKAGE OUTLINE - TO-254



SCHEMATIC



PIN DESCRIPTION

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

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