

KEY FEATURES

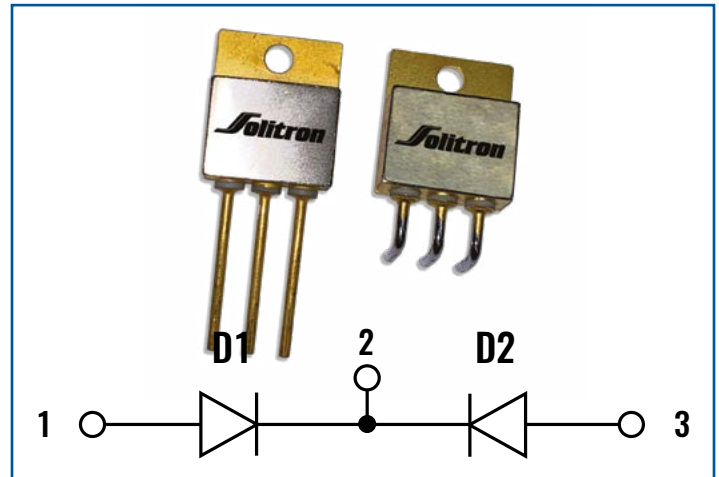
- V_{RRM} 1200V
- I_F @ 125°C 20A/40A
- ISOLATED BACKSIDE
- ZERO REVERSE RECOVERY
- TO-258 HERMETIC PACKAGE
- MIL-PRF-19500 SCREENING AVAILABLE

BENEFITS

- COMPACT, LIGHTWEIGHT DESIGN
- INCREASED POWER DENSITY

APPLICATIONS

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



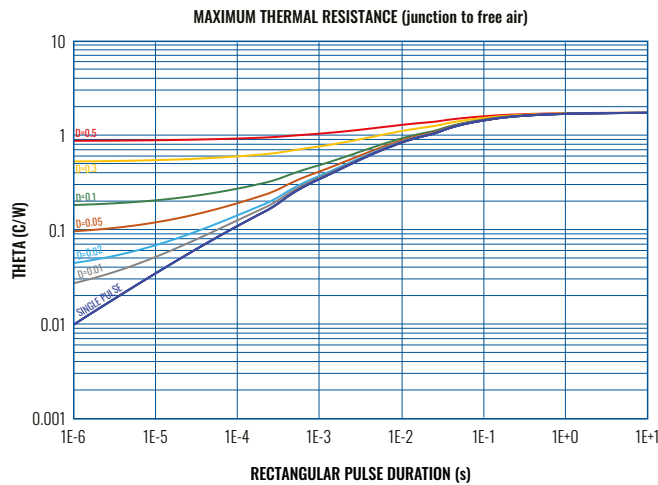
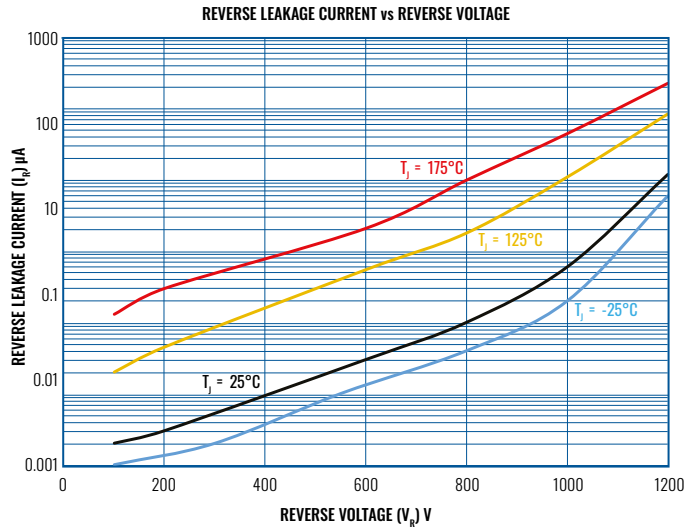
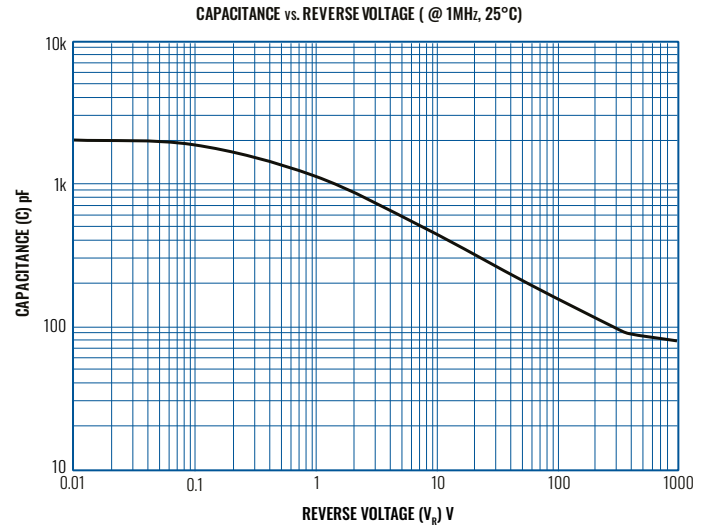
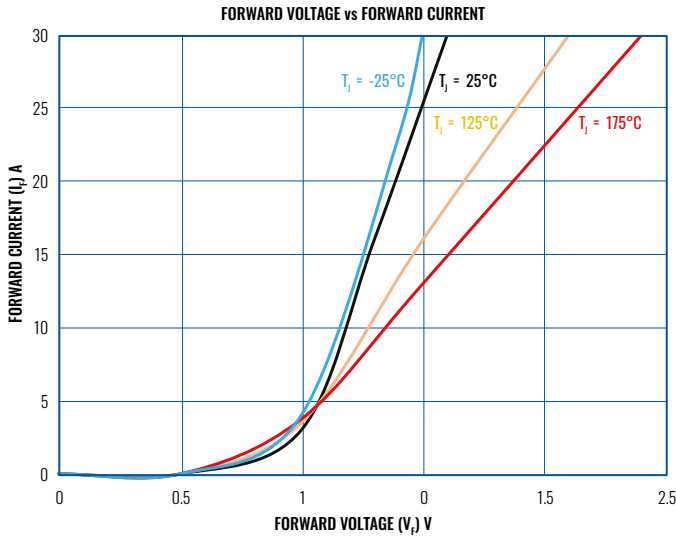
ORDERING GUIDE

Part Number SD11806
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	
Continuous Forward Current	$I_{F(avg)}$	20A/40A	Limited by T_j
Repetitive Peak Forward Current	I_{FRM}	77A/154A	Duty cycle = 10%, limited by T_j
Non-Repetative Forward Surge Current	I_{FSM}	82A/164A	PW = 8.3ms sinusoidal, $T_j = 25^\circ\text{C}$
Power Dissipation	P_D	104W	Limited by T_j
Maximum Junction Temperature	$T_{J(max)}$	175°C	
Operating Temperature Range	T	-55°C to +175°C	
Storage Temperature Range	T_{STG}	-55°C to +175°C	

TYPICAL PERFORMANCE CURVES



ELECTRICAL SPECIFICATIONS

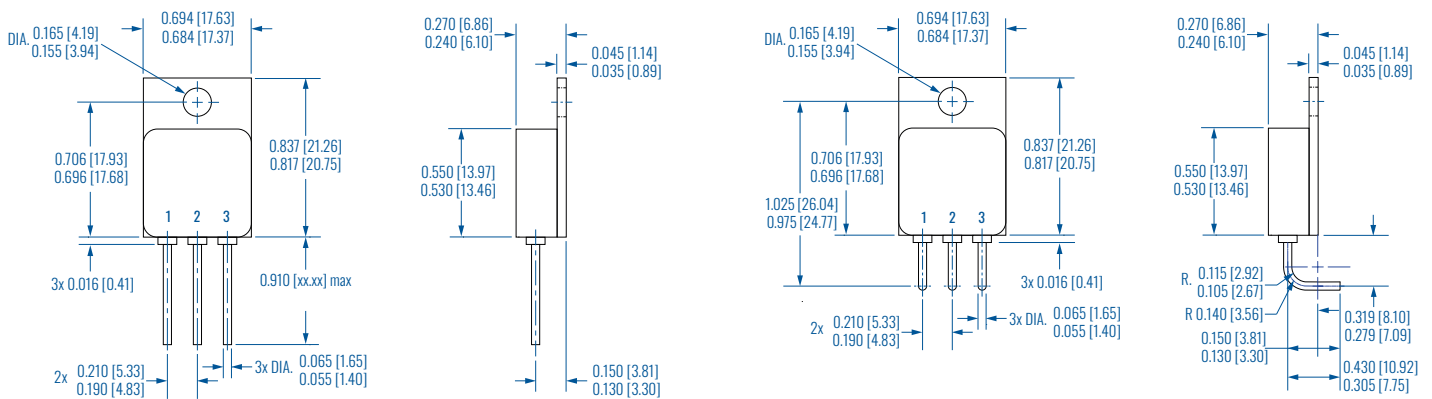
Typical @ 25°C unless otherwise noted

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
DC Blocking Voltage	$I_R = 0.4\text{mA}$	V_{DC}	1200			V
Forward Voltage	$I_F = 20\text{A}, T_J = 25^\circ\text{C}$ $I_F = 20\text{A}, T_J = 175^\circ\text{C}$	V_F		1.4 1.9		V V
Reverse Current	$V_R = 1200\text{V}, T_J = 25^\circ\text{C}$ $V_R = 1200\text{V}, T_J = 175^\circ\text{C}$	I_{RM}		20 260		μA μA
Total Capacitive Charge	$V_R = 800\text{V}, di/dt = 500\text{A}/\mu\text{s}$	Q_C		65		nC
Total Capacitance	1V, f = 1MHz 800V, f = 1MHz	C		1060 85		pF
Switching Time	$V_R = 800\text{V}, di/dt = 500\text{A}/\mu\text{s}$	T_{tr}		18		ns

THERMAL AND MECHANICAL CHARACTERISTICS

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance, Junction to Case	$R_{\theta(JC)}$		1.7		$^\circ\text{C}/\text{W}$
Weight	W	6.1		6.8	g
Mounting Torque	M_S		1.4	1.76	N-m

PACKAGE OUTLINE - TO-258-3L



PIN DESCRIPTION

Pin	Description
1	Anode 1
2	Cathode
3	Anode 2

SCHEMATIC

