

KEY FEATURES

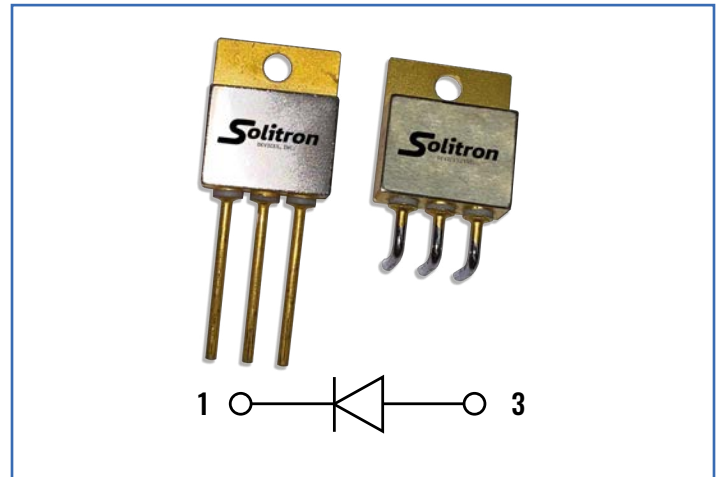
- NO REVERSE RECOVERY / NO FORWARD RECOVERY
- NEAR ZERO SWITCH LOSS
- SWITCHING BEHAVIOR INDEPENDENT OF TEMPERATURE
- 200°C OPERATING TEMPERATURE
- ISOLATED CASE
- HERMETIC PACKAGE
- TX, TXV AND SPACE LEVEL SCREENING AVAILABLE

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



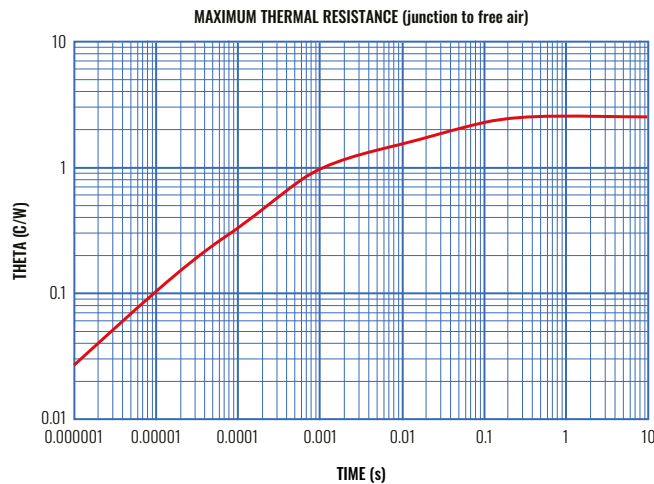
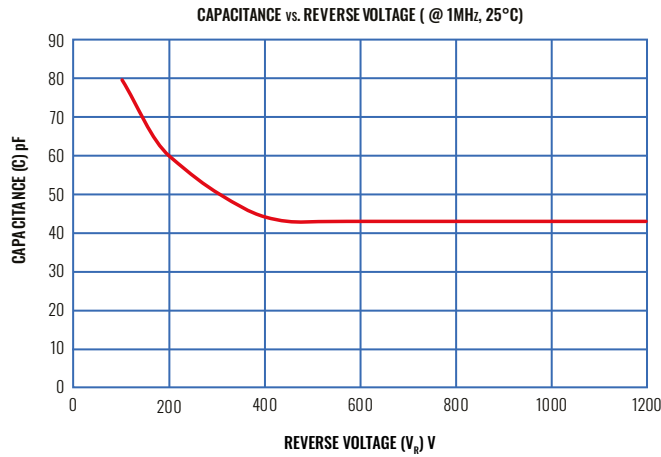
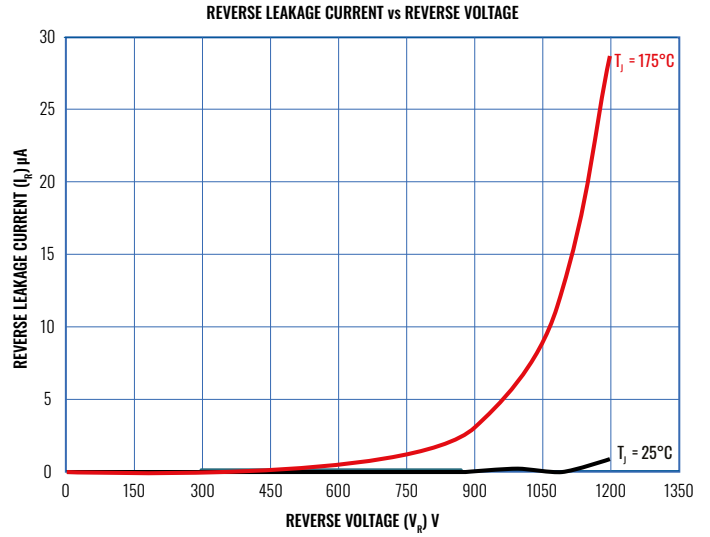
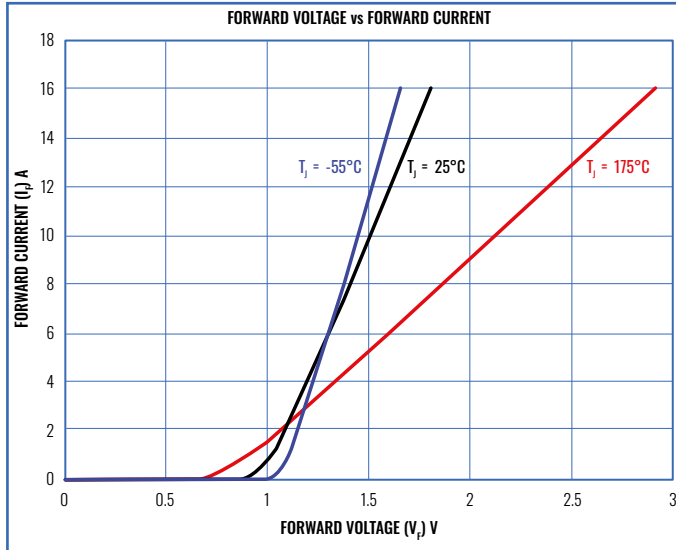
ORDERING GUIDE

Part Number	SD11803
Description	1200V 10A Silicon Carbide Diode (isolated back side)

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 10A	$T_C = 25^\circ\text{C}$ $T_C = 125^\circ\text{C}$
Repetitive Peak Forward Current	I_{FRM}	44A	$T_C = 125^\circ\text{C}$, $t_p = 10\text{ms}$, Half Sine Pulse
Non-Repetative Forward Surge Current	I_{FSM}	43A 33A	$T_C = 25^\circ\text{C}$, $t_p = 8.3\text{ms}$, Half Sine Pulse $T_C = 150^\circ\text{C}$, $t_p = 8.3\text{ms}$, Half Sine Pulse
Power Dissipation, max.	P_D	66W 21W	$T_C = 25^\circ\text{C}$ $T_C = 125^\circ\text{C}$
Maximum Case Temperature	$T_{C(max)}$	175°C	
Maximum Junction Temperature	$T_{J(max)}$	225°C	
Operating Temperature Range	T_{OP}	-55°C to +210°C	
Storage Temperature Range	T_{STG}	-55°C to +210°C	
Lead Temperature for 10 Seconds	T_L	260°C	

TYPICAL PERFORMANCE CURVES



ELECTRICAL SPECIFICATIONS

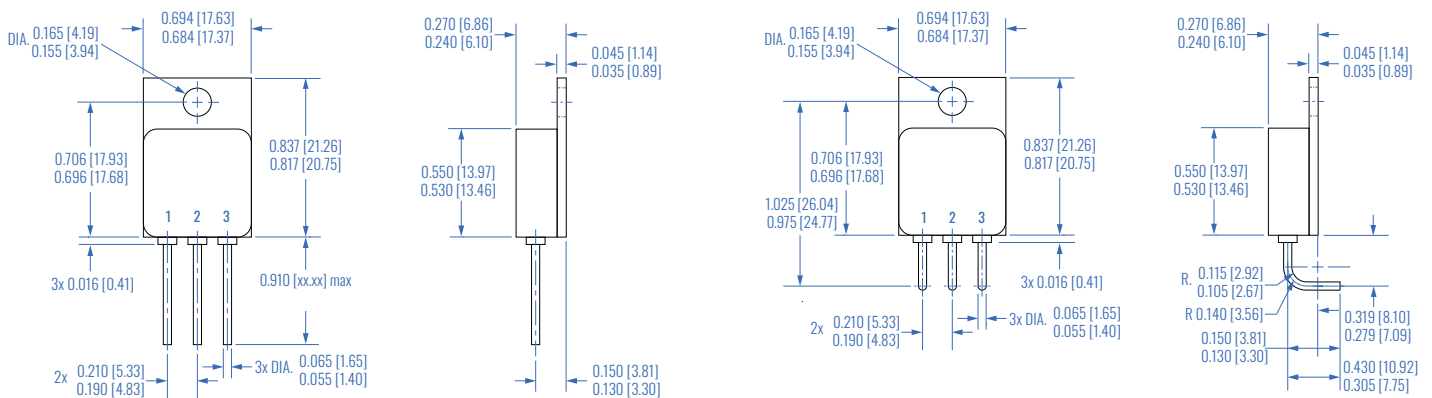
Typical @ 25°C unless otherwise noted

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Blocking Voltage	V_{DC}	1200			V
Forward Voltage	V_F		1.5 2.1 1.4		V V V
Reverse Current	I_{RM}		1 30	200 1000	μA μA
Total Capacitive Charge	Q_C		19		nC
Total Capacitance	C		79 60 44 43 43 43 43		pF
Switching Time	T_{rr}		20		ns

THERMAL AND MECHANICAL CHARACTERISTICS

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance, Junction to Case	$R_{\theta(JC)}$		1.7	2.3	°C/W
Weight	W		8.2		g

PACKAGE OUTLINE - TO-258-3L



PIN DESCRIPTION

Pin	Description
1	Cathode
3	Anode

SCHEMATIC

