

KEY FEATURES

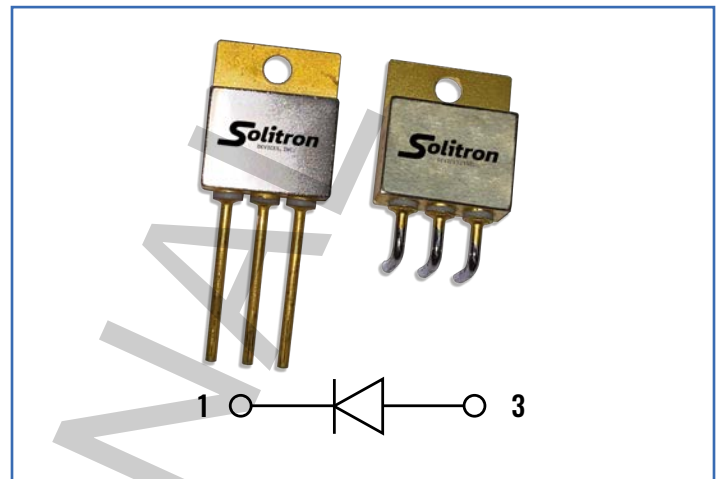
- NO REVERSE RECOVERY / NO FORWARD RECOVERY
- NEAR ZERO SWITCH LOSS
- SWITCHING BEHAVIOR INDEPENDENT OF TEMPERATURE
- 200°C OPERATING TEMPERATURE
- ISOLATED CASE
- HERMETIC PACKAGE
- TX, TXV AND SPACE LEVEL SCREENING AVAILABLE

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 SD11808
Description 1700V 10A Silicon Carbide Diode
 (isolated back side)

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	VALUE	TEST CONDITIONS
Max D.C. Reverse Voltage	V_R	1700V	
Repetitive Peak Voltage	V_{RRM}	1700V	
Surge Peak Reverse Voltage	V_{RSM}	1700V	
DC Blocking Voltage	V_{DC}	1700V	
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}	55A 41A	$T_C = 25^\circ\text{C}$, $t_p = 8.3\text{ms}$, 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	

ELECTRICAL SPECIFICATIONS

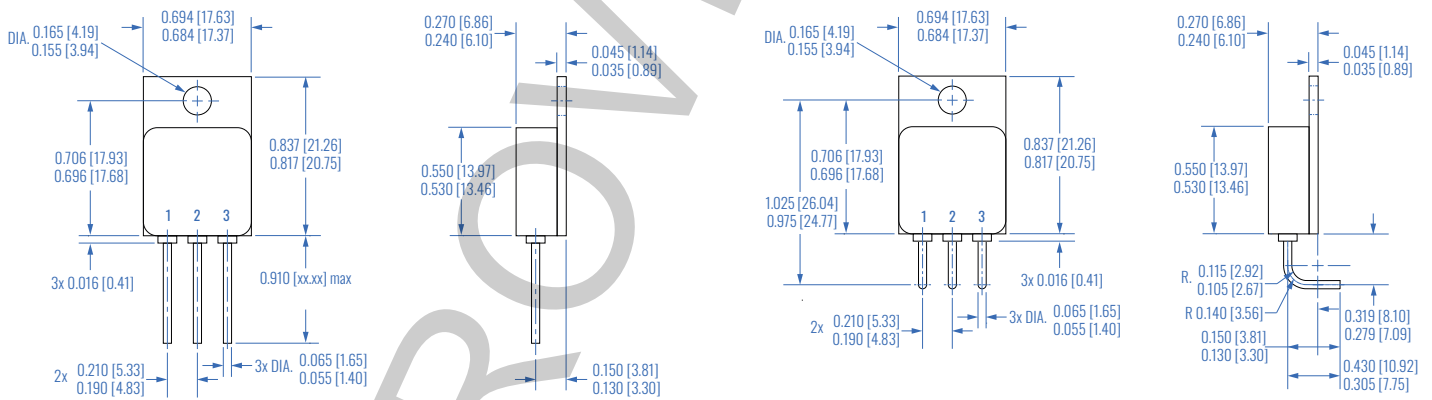
Typical @ 25°C unless otherwise noted

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Blocking Voltage	V_{DC}	1700			V
Forward Voltage	V_F	$I_F = 10A, T_J = 25^\circ C$	1.5		V
		$I_F = 10A, T_J = 175^\circ C$	2.1		V
		$I_F = 10A, T_J = -55^\circ C$	1.4		V
Reverse Current	I_{RM}	$V_R = 1200V, T_J = 25^\circ C$	20	200	μA
		$V_R = 1200V, T_J = 175^\circ C$	120	300	μA
Total Capacitive Charge	Q_C		111		nC
Total Capacitance	C	100V, f = 1MHz	830		pF
		800V, f = 1MHz	51		
		1700V, f = 1MHz	50		

THERMAL AND MECHANICAL CHARACTERISTICS

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

PACKAGE OUTLINE - TO-258-3L



PIN DESCRIPTION

Pin	Description
1	Cathode
3	Anode

SCHEMATIC

