

KEY FEATURES

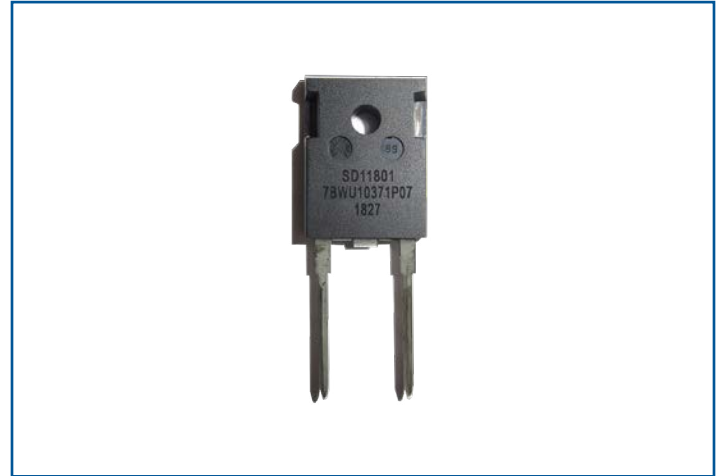
- V_{RRM} 1200V
- I_F @ 125°C 10A
- SMALL FOOTPRINT
- ZERO REVERSE RECOVERY
- PLASTIC COTS PACKAGING

BENEFITS

- COMPACT, LIGHTWEIGHT DESIGN
- INCREASED POWER DENSITY

APPLICATIONS

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



ORDERING GUIDE

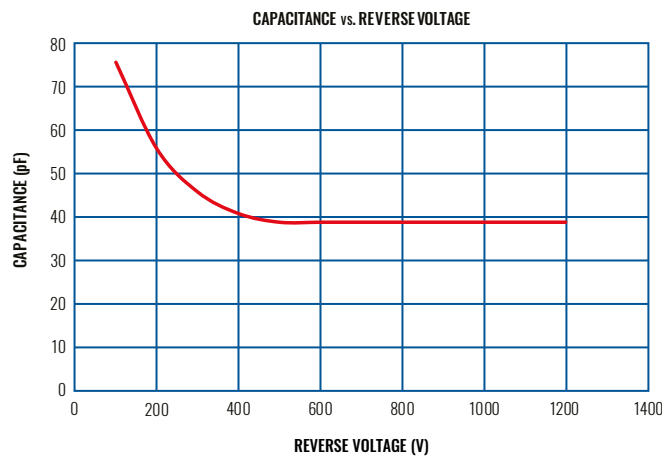
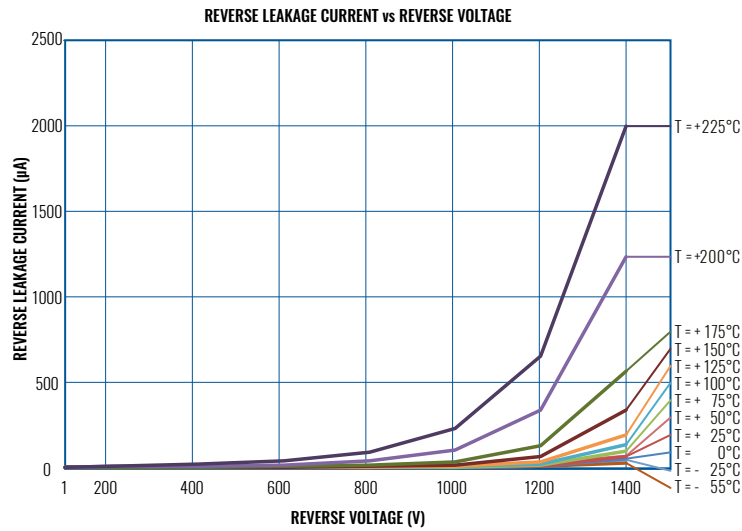
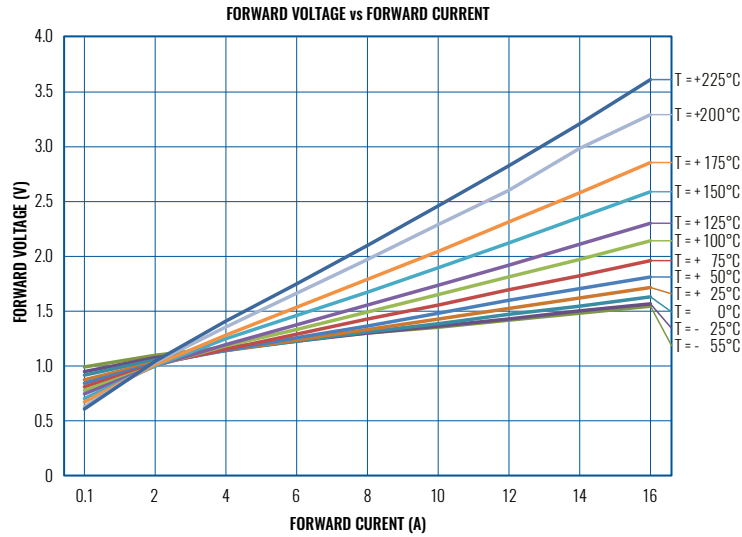
Part Number SD11801

Description 1200V Silicon Carbide Diode | non-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	P_D	16W 19W	$T_C = 25^\circ\text{C}$ $T_C = 125^\circ\text{C}$
Maximum Case Temperature	$T_{C(max)}$	175°C	
Maximum Junction Temperature	$T_{J(max)}$	200°C	
Operating Temperature Range	T	-55°C to +175°C	
Storage Temperature Range	T_{STG}	-55°C to +175°C	
Lead Temperature for 10 Seconds	T_L	260°C	

TYPICAL PERFORMANCE CURVES



ELECTRICAL SPECIFICATIONS

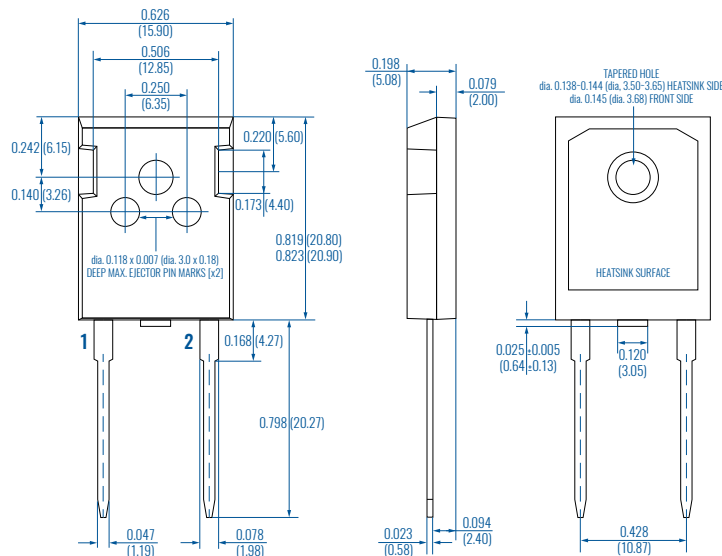
Typical @ 25°C unless otherwise noted

Parameter		Symbol	Min.	Typ.	Max.	Unit
DC Blocking Voltage		V_{DC}	1200	1300		V
Forward Voltage	$I_F = 10A, T_J = 25^\circ C$ $I_F = 10A, T_J = 125^\circ C$	V_F		1.4 1.7		V V
Reverse Current	$V_R = 1400V, T_J = 25^\circ C$ $V_R = 1400V, T_J = 125^\circ C$	I_{RM}		12 80	200 1000	μA μA
Total Capacitive Charge	$I_F = 10A$	Q_C		19		nC
Total Capacitance	100V, f = 1MHz 200V, f = 1MHz 400V, f = 1MHz 600V, f = 1MHz 800V, f = 1MHz 1000V, f = 1MHz	C		77 56 41 39 39 39		pF
Switching Time	$I_F = 10A$	T_{tr}		20		ns

THERMAL AND MECHANICAL CHARACTERISTICS

Parameter		Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance, Junction to Case		$R_{\theta(JC)}$		1.7		°C/W
Weight		W	5.7		5.9	g
Mounting Torque		M_S		1.4	1.76	N-m

PACKAGE OUTLINE - TO-247-2L



PIN DESCRIPTION

Pin	Description
1	Cathode
2	Anode

SCHEMATIC

