



UCBD20120A

SiC-SBD DIODE

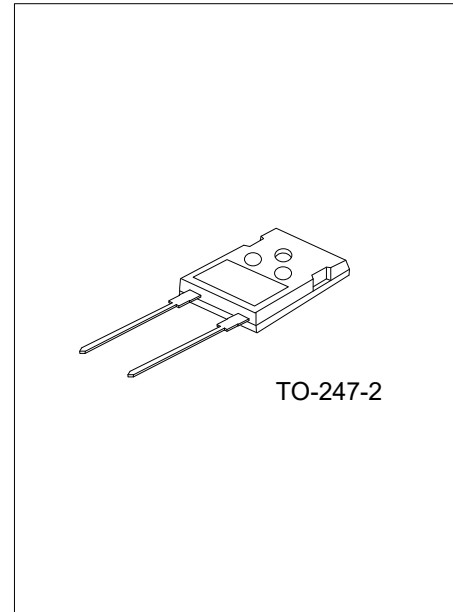
SILICON CARBIDE SCHOTTKY BARRIER DIODES

DESCRIPTION

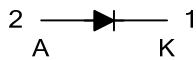
The **UCBD20120A** is an SiC Schottky barrier diodes (SBDs) feature high reverse voltage ratings. In addition to SBDs with short reverse recovery time (t_{rr}), provides 1200V SBDs with a junction barrier Schottky (JBS) structure that provide low leakage current (I_r) and high surge current capability required for switched-mode power supplies. These devices help improve the efficiency of switched-mode power supplies.

FEATURES

- * Zero Forward/Reverse Recovery Current
- * High Blocking Voltage
- * High Frequency Operation
- * Positive Temperature Coefficient on V_F
- * Temperature Independent Switching Behavior
- * High surge current capability



SYMBOL



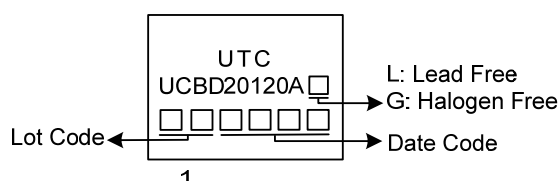
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
UCBD20120AL-T472-T	UCBD20120AG-T472-T	TO-247-2	K	A	Tube

Note: Pin Assignment: K: Cathode A: Anode

<p>UCBD20120AG-T472-T</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Green Package</p>	<p>(1) T: Tube</p> <p>(2) T472: TO-247-2</p> <p>(3) G: Halogen Free and Lead Free, L: Lead Free</p>
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MARKING



■ ABSOLUTE MAXIMUM RATINGS ($T_C=25^\circ\text{C}$, unless otherwise specified)

Ratings at 25°C ambient temperature unless otherwise specified. Resistive or inductive load, 60Hz.

PARAMETER		SYMBOL	RATINGS	UNIT
Repetitive Peak Reverse Voltage		V_{RRM}	1200	V
Surge Peak Reverse Voltage		V_{RSM}	1200	V
DC Blocking Voltage		V_R	1200	V
Continuous Forward Current	$T_C=150^\circ\text{C}$	I_F	20	A
Repetitive Peak Forward Surge Current	$T_J=25^\circ\text{C}$ $t_p=10\text{ms}$, Half Sine Wave	I_{FRM}	145	A
	$T_J=110^\circ\text{C}$ $t_p=10\text{ms}$, Half Sine Wave		130	A
Non-Repetitive Peak Forward Surge Current	$T_J=25^\circ\text{C}$ $t_p=10\text{ms}$, Half Sine Wave	I_{FSM}	160	A
	$T_J=110^\circ\text{C}$ $t_p=10\text{ms}$, Half Sine Wave		150	A
Operating Junction Temperature		T_J	-55 ~ +175	$^\circ\text{C}$
Storage Temperature Range		T_{STG}	-55 ~ +175	$^\circ\text{C}$

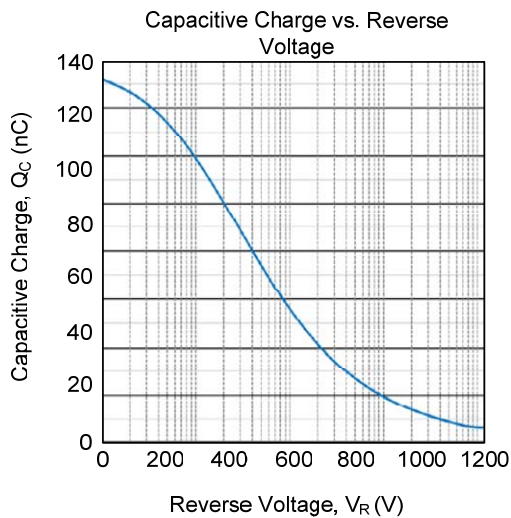
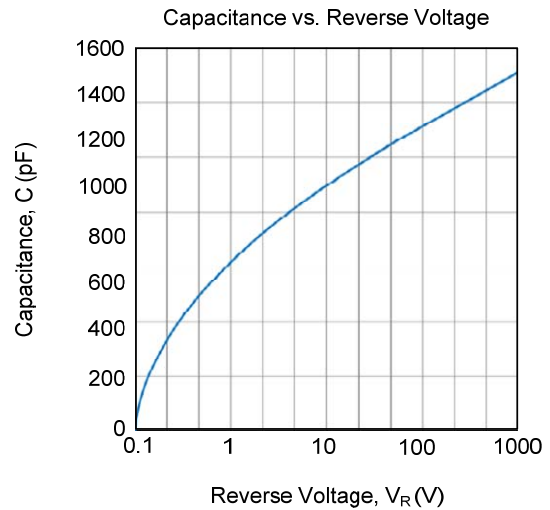
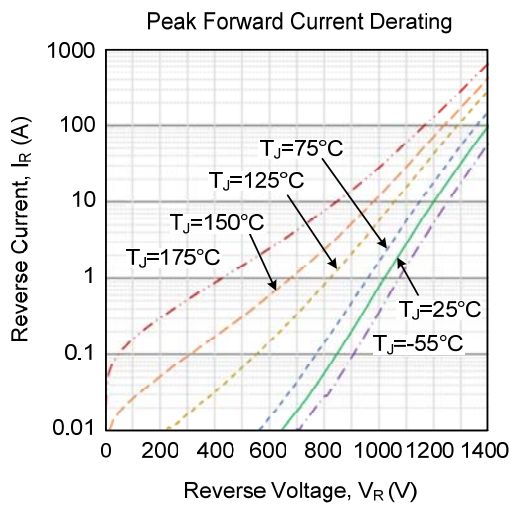
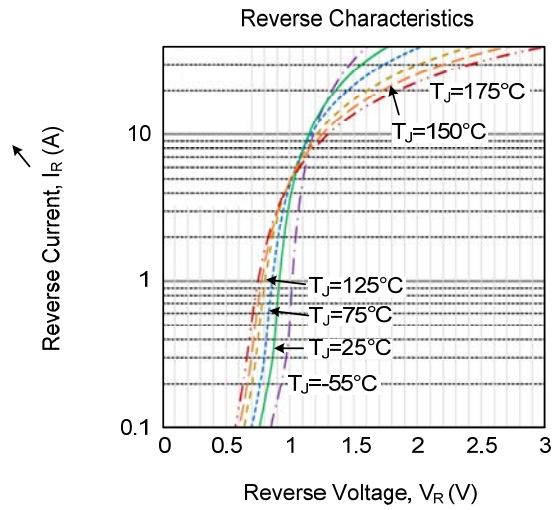
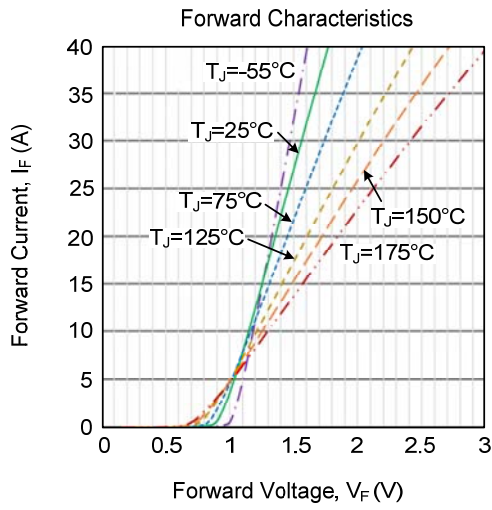
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS

(Ratings at 25°C ambient temperature unless otherwise specified. Resistive or inductive load, 60Hz)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
DC Blocking Voltage	V_{DC}	$T_C=25^\circ\text{C}$	1200			V
Forward Voltage	V_F	$I_F=20\text{A}$, $T_J=25^\circ\text{C}$		1.35	1.7	V
		$I_F=20\text{A}$, $T_J=125^\circ\text{C}$		1.6		V
		$I_F=20\text{A}$, $T_J=175^\circ\text{C}$		1.85		V
Reverse Current	I_R	$V_R=1200\text{V}$, $T_J=25^\circ\text{C}$		10	150	μA
		$V_R=1200\text{V}$, $T_J=125^\circ\text{C}$		45		μA
		$V_R=1200\text{V}$, $T_J=175^\circ\text{C}$		130		μA
Total Capacitive Charge	Q_C	$V_R=800\text{V}$, $T_J=25^\circ\text{C}$		105		nC
Total Capacitance	C	$V_R=1.0\text{V}$, $T_J=25^\circ\text{C}$, $f=1\text{MHz}$		1200		pF
		$V_R=400\text{V}$, $T_J=25^\circ\text{C}$, $f=1\text{MHz}$		100		pF
		$V_R=800\text{V}$, $T_J=25^\circ\text{C}$, $f=1\text{MHz}$		70		pF

■ TYPICAL CHARACTERISTICS



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