



UCBD1065

SiC-SBD DIODE

SILICON CARBIDE SCHOTTKY DIODE CHIP

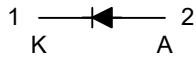
DESCRIPTION

The **UCBD1065** is an SiC Schottky barrier diodes (SBDs) feature high reverse voltage ratings. In addition to SBDs with short reverse recovery time (t_{rr}), provides 650V 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



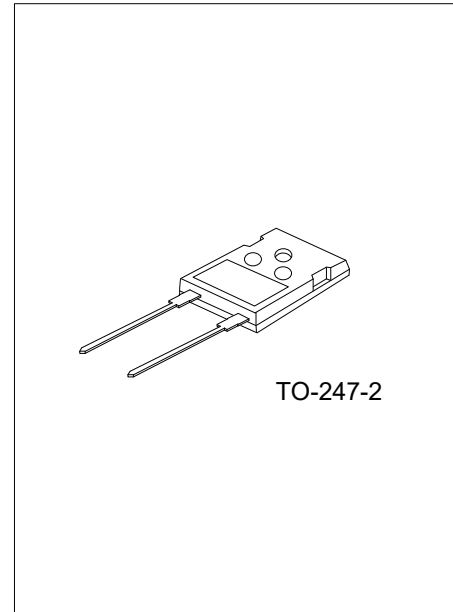
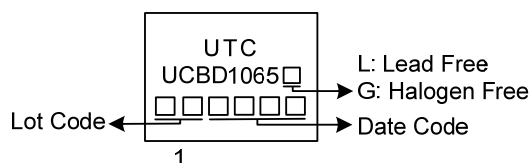
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
UCBD1065L-T472-T	UCBD1065G-T472-T	TO-247-2	K	A	Tube

Note: Pin Assignment: K: Cathode A: Anode

UCBD1065G-T472-T	(1)Packing Type	(1) T: Tube
	(2)Package Type	(2) T472: TO-247-2
	(3)Green Package	(3) G: Halogen Free and Lead Free, L: Lead Free

MARKING



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

PARAMETER		SYMBOL	RATINGS	UNIT
Repetitive Peak Reverse Voltage		V_{RRM}	650	V
Surge Peak Reverse Voltage		V_{RSM}	650	V
DC Blocking Voltage		V_R	650	V
Continuous Forward Current	$T_J=150^\circ\text{C}$	I_F	10	A
Repetitive Peak Forward Surge Current	$T_J=25^\circ\text{C}$ $t_p=10\text{ms}$, Half Sine Wave	I_{FRM}	45	A
	$T_J=110^\circ\text{C}$ $t_p=10\text{ms}$, Half Sine Wave		40	A
Non-Repetitive Peak Forward Surge Current	$T_J=25^\circ\text{C}$ $t_p=10\text{ms}$, Half Sine Wave	I_{FSM}	50	A
	$T_J=110^\circ\text{C}$ $t_p=10\text{ms}$, Half Sine Wave		45	A
Operating Junction Temperature		T_J	$-55 \sim +175$	$^\circ\text{C}$
Storage Temperature Range		T_{STG}	$-55 \sim +175$	$^\circ\text{C}$

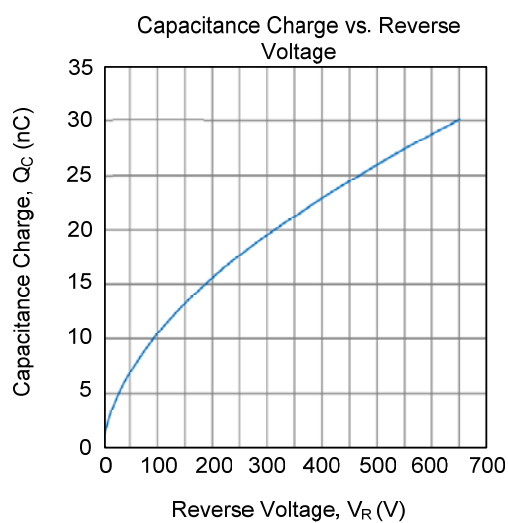
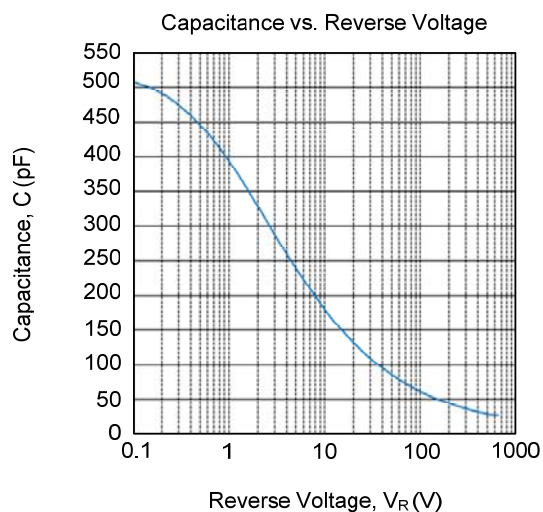
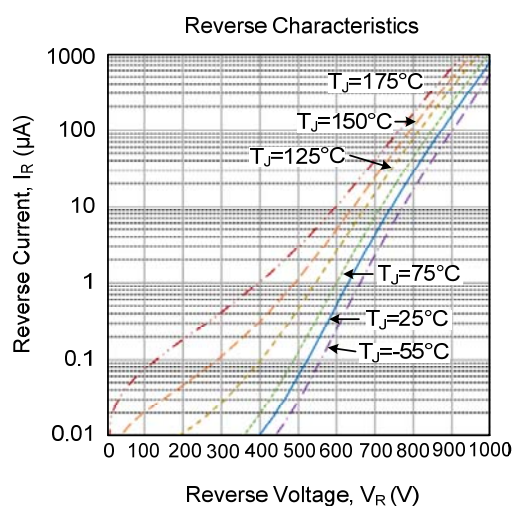
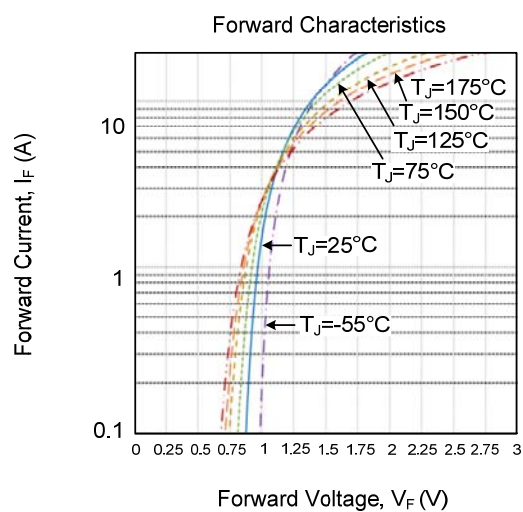
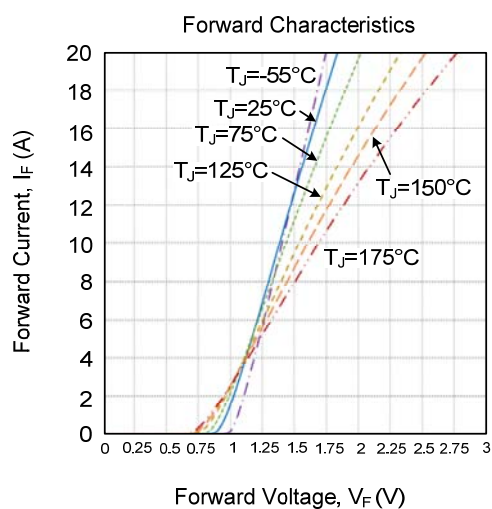
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ 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}	$T_C=25^\circ\text{C}$	650			V
Forward Voltage	V_F	$I_F=10\text{A}$, $T_J=25^\circ\text{C}$		1.4	1.75	V
		$I_F=10\text{A}$, $T_J=125^\circ\text{C}$		1.5		V
		$I_F=10\text{A}$, $T_J=175^\circ\text{C}$		1.7		V
Reverse Current	I_R	$V_R=650\text{V}$, $T_J=25^\circ\text{C}$		2.0	50	μA
		$V_R=650\text{V}$, $T_J=125^\circ\text{C}$		6.0		μA
		$V_R=650\text{V}$, $T_J=175^\circ\text{C}$		20		μA
Total Capacitive Charge	Q_C	$V_R=400\text{V}$, $T_J=25^\circ\text{C}$		23		nC
Total Capacitance	C	$V_R=1\text{V}$, $T_J=25^\circ\text{C}$, $f=1\text{MHz}$		390		pF
		$V_R=200\text{V}$, $T_J=25^\circ\text{C}$, $f=1\text{MHz}$		44		pF
		$V_R=400\text{V}$, $T_J=25^\circ\text{C}$, $f=1\text{MHz}$		32		pF

TYPICAL CHARACTERISTICS



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