



UCBD4065

SiC-SBD DIODE

SILICON CARBIDE SCHOTTKY DIODE

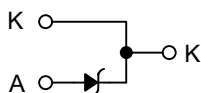
DESCRIPTION

The **UCBD4065** 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
- * 100% avalanche tested

SYMBOL



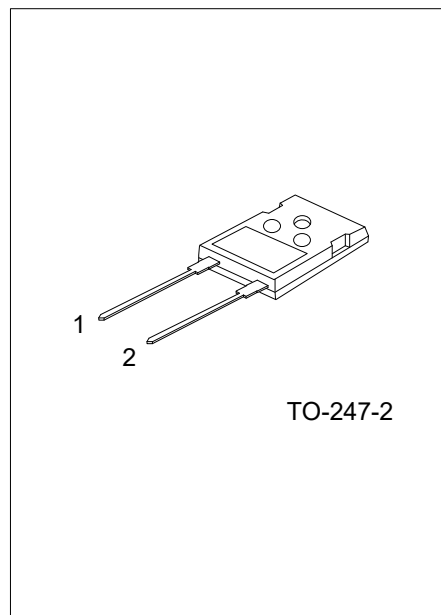
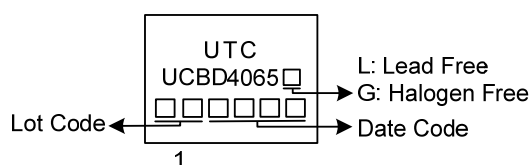
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
UCBD4065L-T472-T	UCBD4065G-T472-T	TO-247-2	K	A	Tube

Note: Pin Assignment: K: Cathode A: Anode

UCBD4065G-T472-T	(1)Packing Type (2)Package Type (3)Green Package	(1) T: Tube (2) T472: TO-247-2 (3) G: Halogen Free and Lead Free, L: Lead Free
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MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_C=25°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 _C =25°C	I _F	79	A
	T _C =120°C		44	A
	T _C =130°C		40	A
Repetitive Peak Forward Surge Current	T _J =25°C t _p =10ms, Half Sine Wave	I _{FRM}	170	A
	T _J =110°C t _p =10ms, Half Sine Wave		160	A
Non-Repetitive Peak Forward Surge Current	T _J =25°C t _p =10ms, Half Sine Wave	I _{FSM}	160	A
	T _J =110°C t _p =10ms, Half Sine Wave		150	A
Total power dissipation		P _D	250	W
Operating Junction Temperature		T _J	-55 ~ +175	°C
Storage Temperature Range		T _{STG}	-55 ~ +175	°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.

■ THERMAL DATA

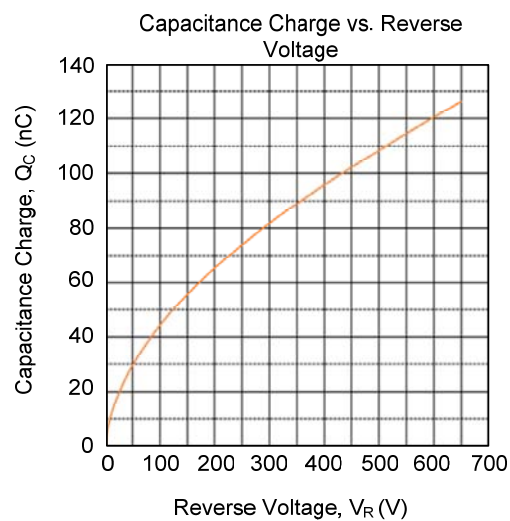
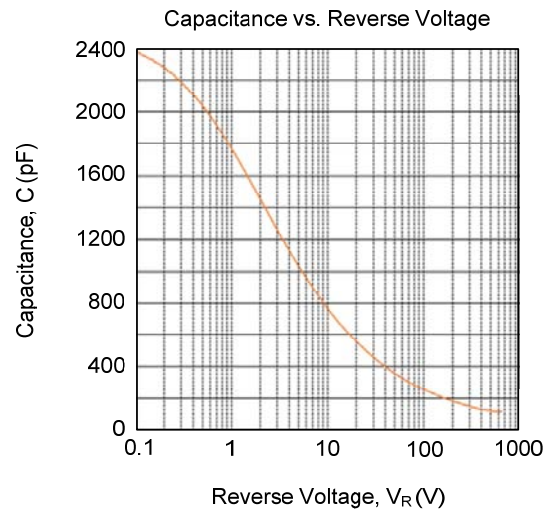
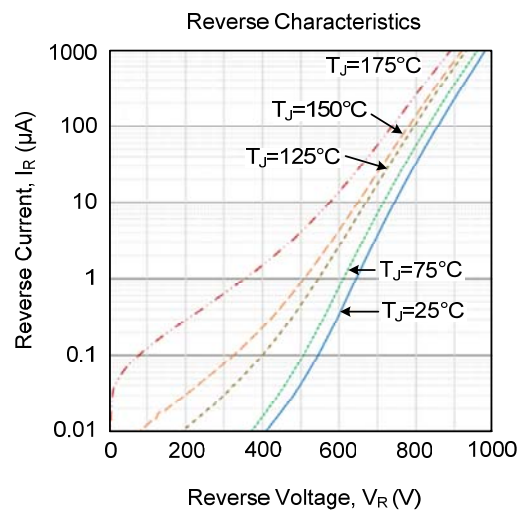
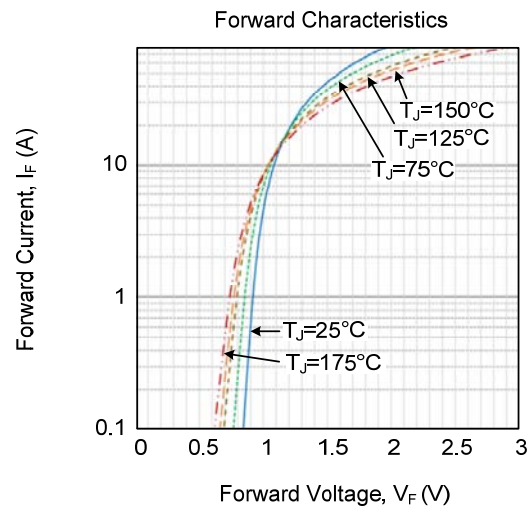
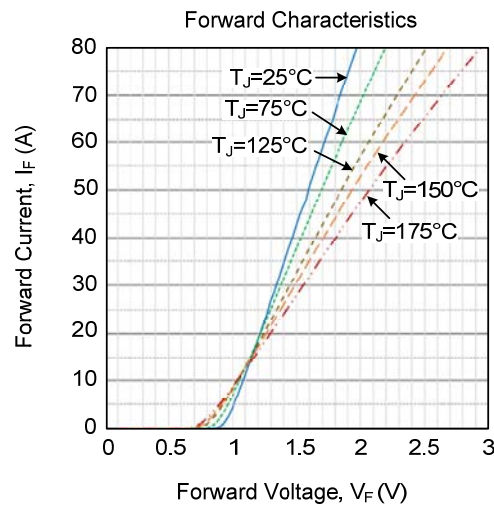
PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Case	θ _{JC}	0.6	°C/W

■ 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°C	650			V
Forward Voltage	V _F	I _F =40A, T _J =25°C		1.46	1.75	V
		I _F =40A, T _J =125°C		1.65		V
		I _F =40A, T _J =175°C		1.8		V
Reverse Current	I _R	V _R =650V, T _J =25°C		1	70	μA
		V _R =650V, T _J =125°C		6		μA
		V _R =650V, T _J =175°C		22		μA
Total Capacitive Charge	Q _C	V _R =400V, T _J =25°C		96		nC
Total Capacitance	C	V _R =1V, T _J =25°C, f=1MHz		1757		pF
		V _R =200V, T _J =25°C, f=1MHz		182		pF
		V _R =400V, T _J =25°C, f=1MHz		136		pF

■ TYPICAL CHARACTERISTICS



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