



UCBD0665SA

SiCBD DIODE

SILICON CARBIDE SCHOTTKY BARRIER DIODES

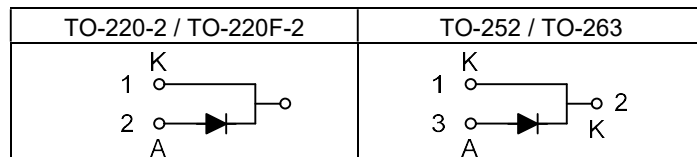
DESCRIPTION

The **UCBD0665SA** 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

- * Negligible reverse recovery
- * High Frequency
- * High surge current
- * Positive temperature coefficient

SYMBOL



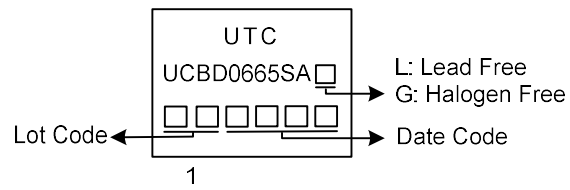
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UCBD0665SAL-TA2-T	UCBD0665SAG-TA2-T	TO-220-2	K	A	-	Tube
UCBD0665SAL-TF32-T	UCBD0665SAG-TF32-T	TO-220F-2	K	A	-	Tube
UCBD0665SAL-TN3-R	UCBD0665SAG-TQ2-R	TO-252	K	K	A	Tape Reel
UCBD0665SAL-TQ2-T	UCBD0665SAG-TQ2-T	TO-263	K	K	A	Tube
UCBD0665SAL-TQ2-R	UCBD0665SAG-TQ2-R	TO-263	K	K	A	Tape Reel

Note: Pin Assignment: K: Cathode A: Anode

	(1) T: Tube, R: Tape Reel (2) TA2: TO-220-2, TF32: TO-220F-2, TN3: TO-252 TQ2: TO-263 (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)

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

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	26	A
	T _C =135°C		14	A
	T _C =167°C		6	A
Repetitive Peak Forward Surge Current	T _J =25°C t _p =10ms, Half Sine Wave	I _{FRM}	62	A
Non-Repetitive Peak Forward Surge Current	T _J =25°C t _p =10ms, Half Sine Wave	I _{FSM}	77	A
	T _J =110°C t _p =10ms, Half Sine Wave		74	A
Power Dissipation	TO-220-2	P _D	79	W
	TO-220F-2		73	W
	TO-252		89	W
	TO-263		71	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

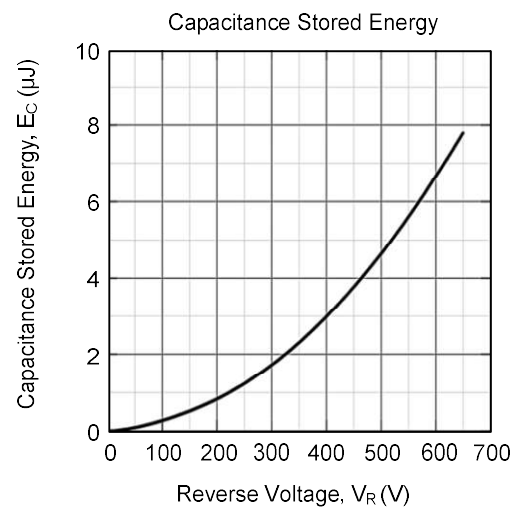
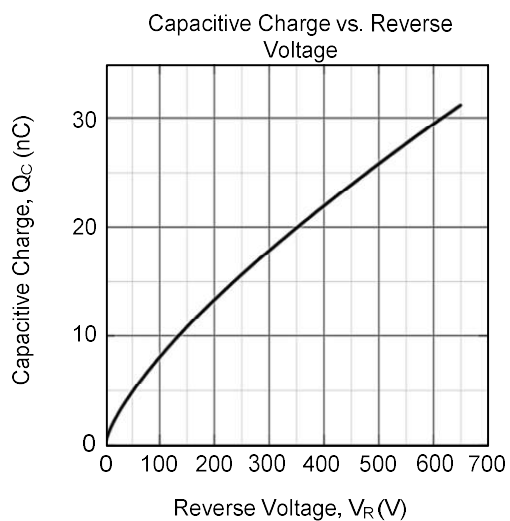
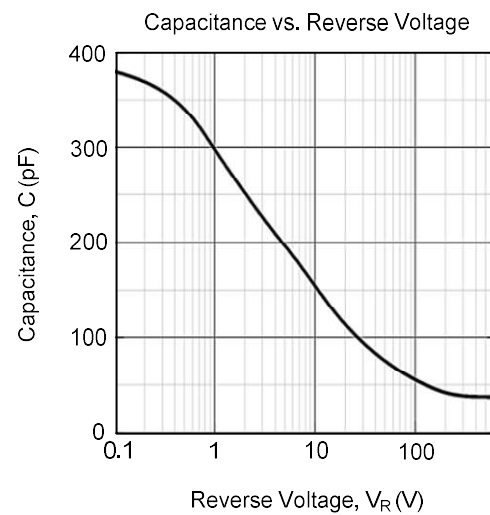
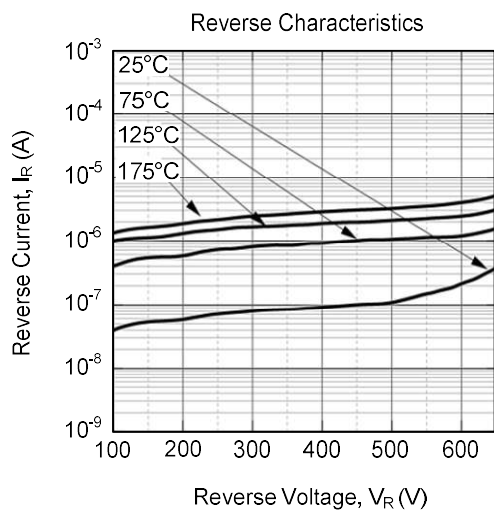
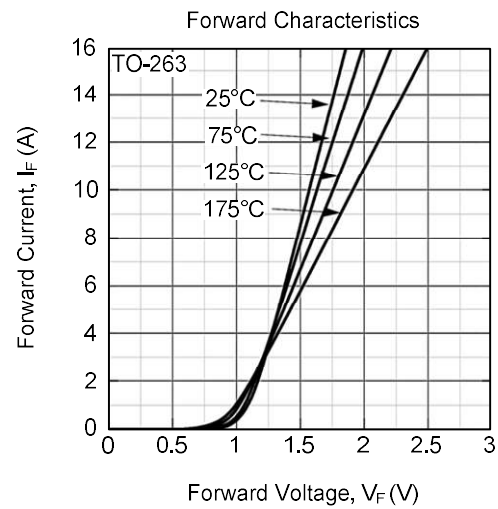
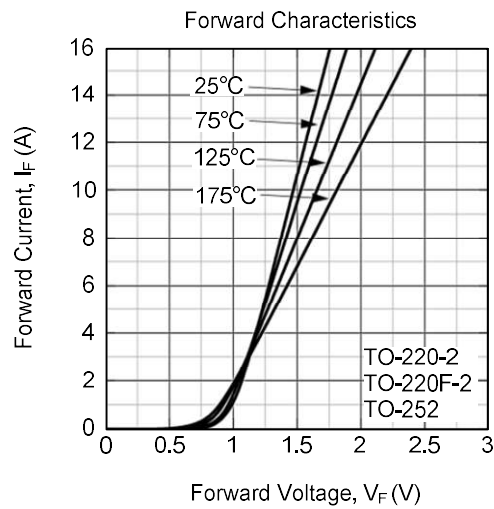
PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Case	TO-220-2	θ _{JC}	1.9	°C/W
	TO-220F-2		2.05	°C/W
	TO-252		1.69	°C/W
	TO-263		2.1	°C/W

■ ELECTRICAL CHARACTERISTICS

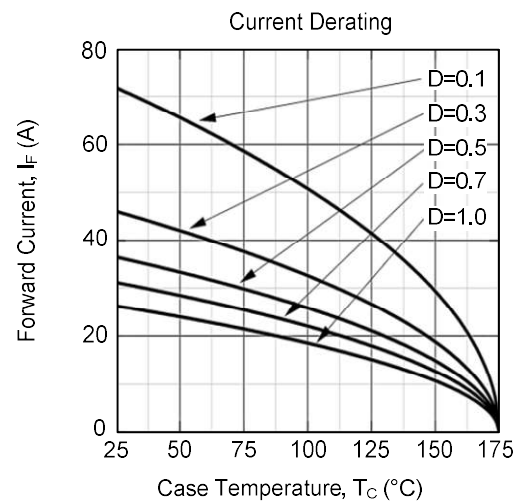
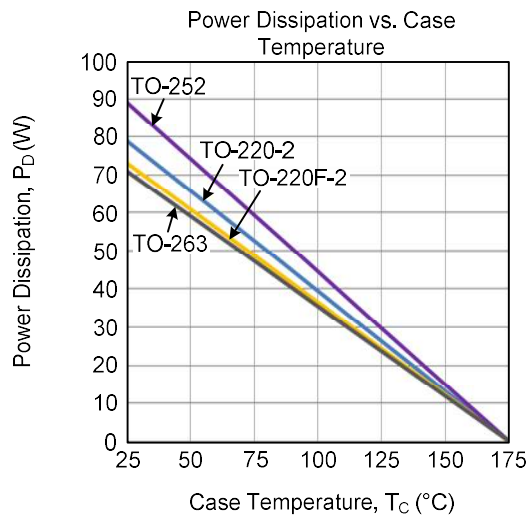
(Ratings at 25°C ambient temperature unless otherwise specified. Resistive or inductive load, 60Hz)

PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
DC Blocking Voltage		V_{DC}	$T_C=25^{\circ}C$	650			V
Forward Voltage	TO-220-2 TO-220F-2 TO-252	V_F	$I_F=3.0A, T_J=25^{\circ}C$		1.11		V
	TO-263				1.2		V
	TO-220-2 TO-220F-2 TO-252		$I_F=6.0A, T_J=25^{\circ}C$		1.27	1.5	V
	TO-263				1.31	1.55	V
	TO-220-2 TO-220F-2 TO-252		$I_F=6.0A, T_J=175^{\circ}C$		1.41		V
	TO-263				1.53		V
Reverse Current		I_R	$V_R=650V, T_J=25^{\circ}C$		1	50	μA
			$V_R=650V, T_J=175^{\circ}C$		3		μA
Total Capacitive Charge		Q_C	$V_R=400V$		22		nC
Total Capacitance		C	$V_R=1.0V, f=1MHz$		300		pF
			$V_R=200V, f=1MHz$		42		pF
			$V_R=400V, f=1MHz$		37		pF
Capacitance Stored Energy		E_C	$V_R=400V$		3		μJ

■ TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS (Cont.)



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