



UCBD0465SA

SiC-SBD DIODE

SILICON CARBIDE SCHOTTKY BARRIER DIODES

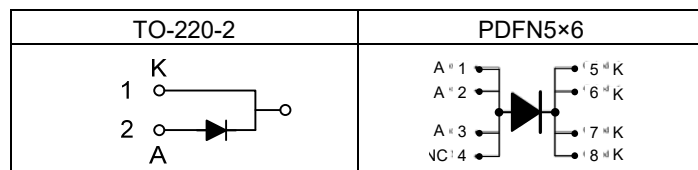
DESCRIPTION

The **UCBD0465SA** 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
- * Benchmark switching behavior
- * Positive temperature coefficient
- * Temperature-Independent Switching Behavior

SYMBOL



ORDERING INFORMATION

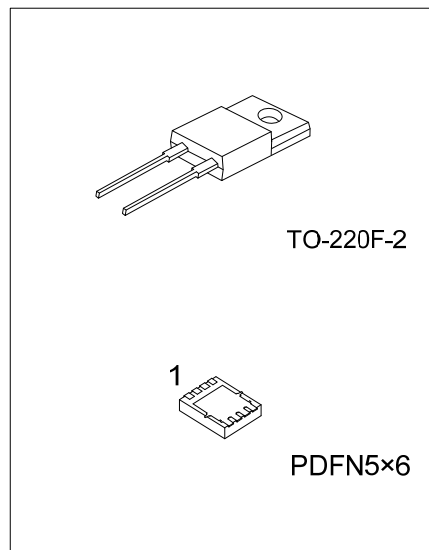
Ordering Number		Package	Pin Assignment								Packing
Lead Free	Halogen Free		1	2	3	4	5	6	7	8	
UCBD0465SAL-TA2-T	UCBD0465SAG-TA2-T	TO-220-2	K	A	-	-	-	-	-	-	Tube
UCBD0465SAL-P5060-R	UCBD0465SAG-P5060-R	PDFN5×6	A	A	A	NC	K	K	K	K	Tape Reel

Note: Pin Assignment: G: Gate D: Drain S: Source

	(1) T: Tube, R: Tape Reel (2) TA2: TO-220-2, P5060: PDFN5×6 (3) G: Halogen Free and Lead Free, L: Lead Free
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MARKING

TO-220F	PDFN5×6



■ 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	14	A
	T _C =135°C			7	A
	T _C =167°C			4	A
Repetitive Peak Forward Surge Current		T _J =25°C t _p =10ms, Half Sine Wave	I _{FRM}	37	A
Non-Repetitive Peak Forward Surge Current	T _J =25°C t _p =10ms, Half Sine Wave		I _{FSM}	42	A
	T _J =110°C t _p =10ms, Half Sine Wave			38	A
Power Dissipation	TO-220-2	T _C =25°C	P _D	58	W
		T _C =110°C		25	W
		T _C =150°C		10	W
	PDFN5×6	T _C =25°C		75	W
		T _C =110°C		33	W
		T _C =150°C		13	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}	2.6	°C/W
	PDFN5×6		2	°C/W

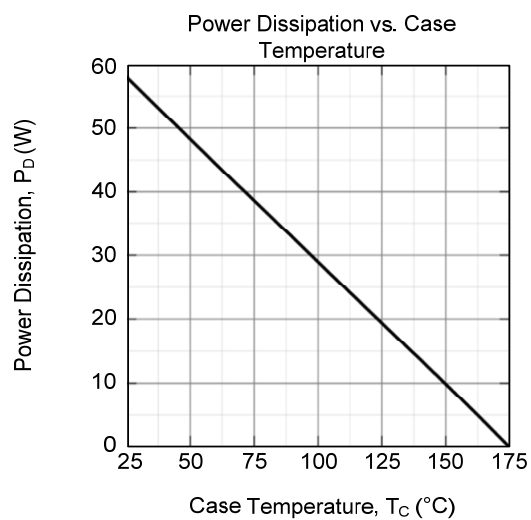
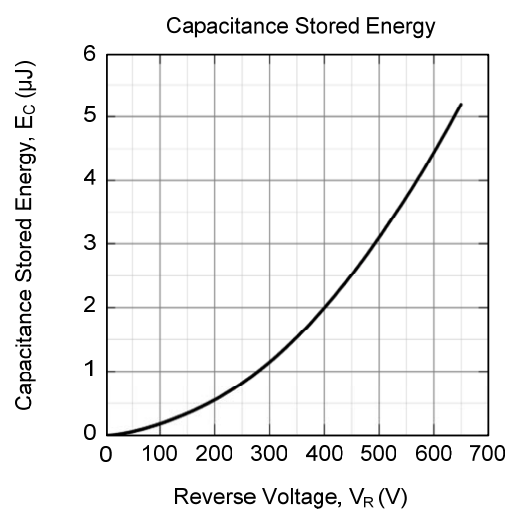
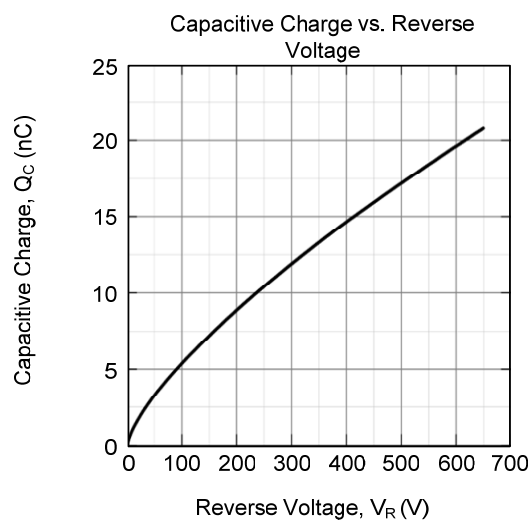
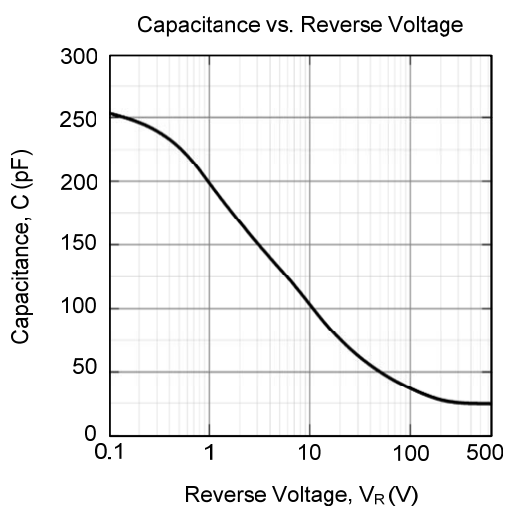
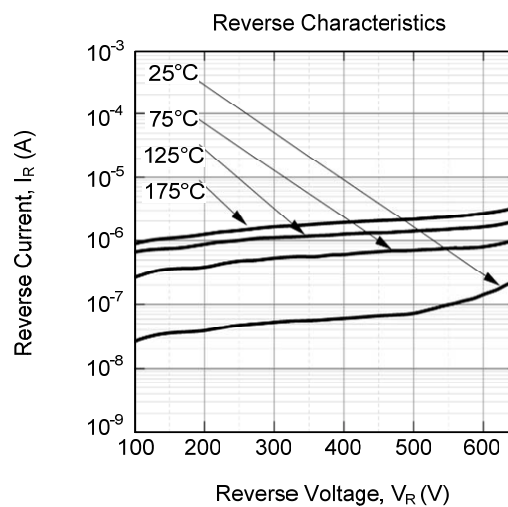
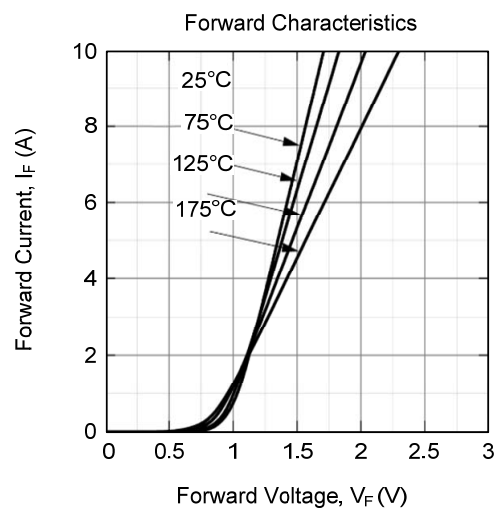
■ ELECTRICAL CHARACTERISTICS

(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 =2A, T _J =25°C		1.12		V
		I _F =4A, T _J =25°C		1.26	1.5	V
		I _F =4A, T _J =175°C		1.43		V
Reverse Current	I _R	V _R =650V, T _J =25°C		1	50	μA
		V _R =650V, T _J =175°C		5		μA
Total Capacitive Charge	Q _C	V _R =400V		14		nC
Total Capacitance	C	V _R =1V, f=1MHz		200		pF
		V _R =200V, f=1MHz		26		pF
		V _R =400V, f=1MHz		25		pF
Capacitance Stored Energy	E _C	V _R =400V		2		μJ

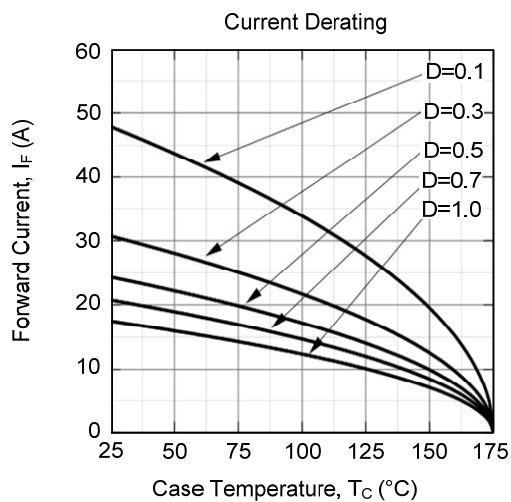
■ TYPICAL CHARACTERISTICS

TO-220-2

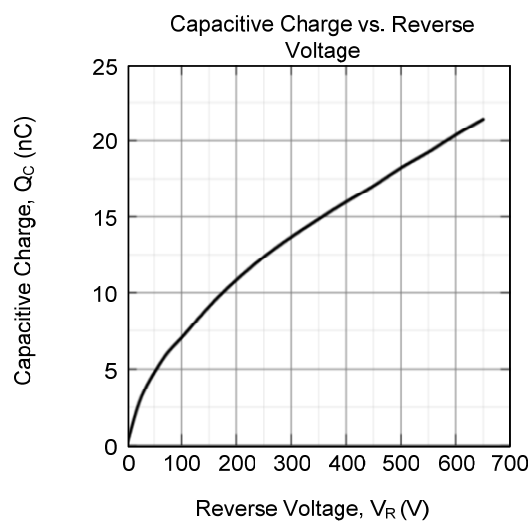
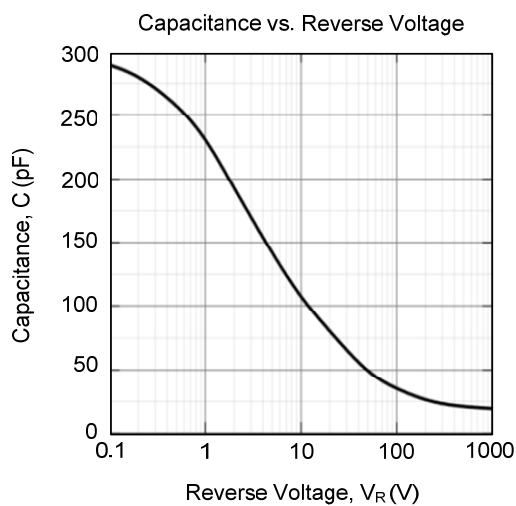
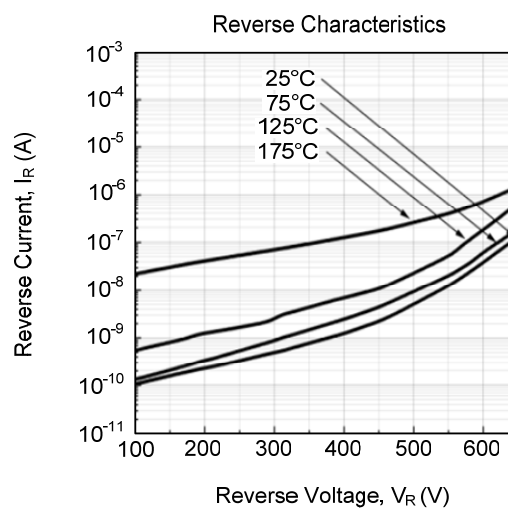
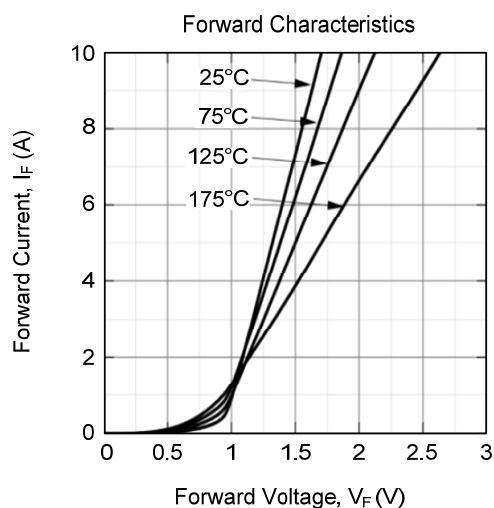


■ TYPICAL CHARACTERISTICS (Cont.)

TO-220-2

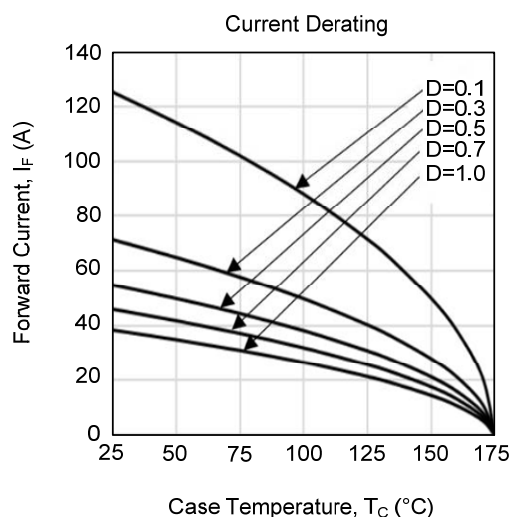
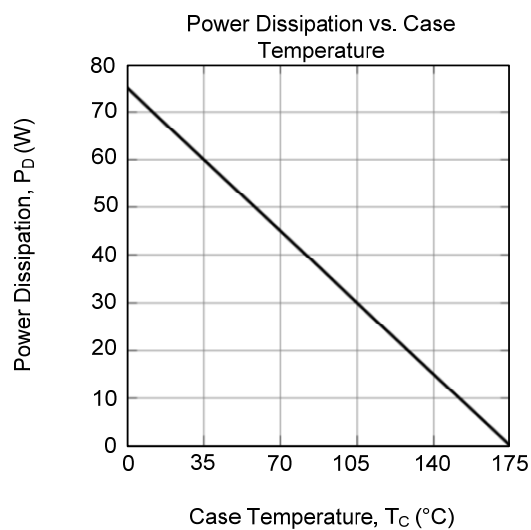
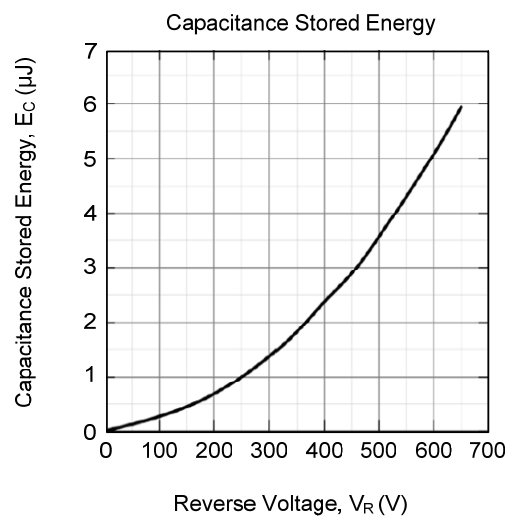


PDFN5×6



■ TYPICAL CHARACTERISTICS

PDFN5×6



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