



UCBD1565SA

SiC-SBD DIODE

SILICON CARBIDE SCHOTTKY DIODE CHIP

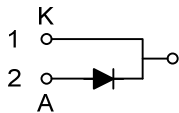
DESCRIPTION

The **UCBD1565SA** 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



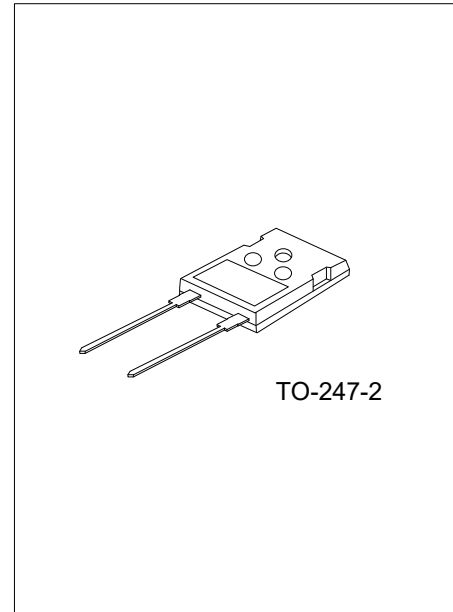
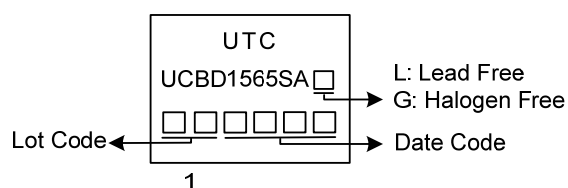
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
UCBD1565SAL-T472-T	UCBD1565SAG-T472-T	TO-247-2	K	A	Tube

Note: Pin Assignment: K: Cathode A: Anode

UCBD1565SAG-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°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°C	I _F	15	A
Repetitive Peak Forward Surge Current	T _J =25°C t _p =10ms, Half Sine Wave	I _{FRM}	70	A
	T _J =110°C t _p =10ms, Half Sine Wave		60	A
Non-Repetitive Peak Forward Surge Current	T _J =25°C t _p =10ms, Half Sine Wave	I _{FSM}	80	A
	T _J =110°C t _p =10ms, Half Sine Wave		70	A
Power Dissipation		P _D		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 Ambient	θ _{JA}	50	°C/W
Junction to Case	θ _{JC}	0.9	°C/W

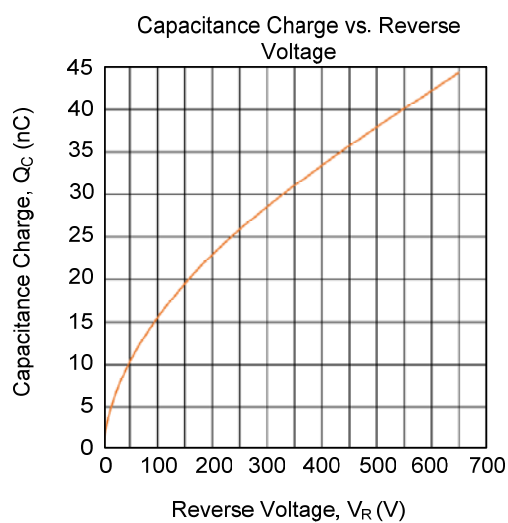
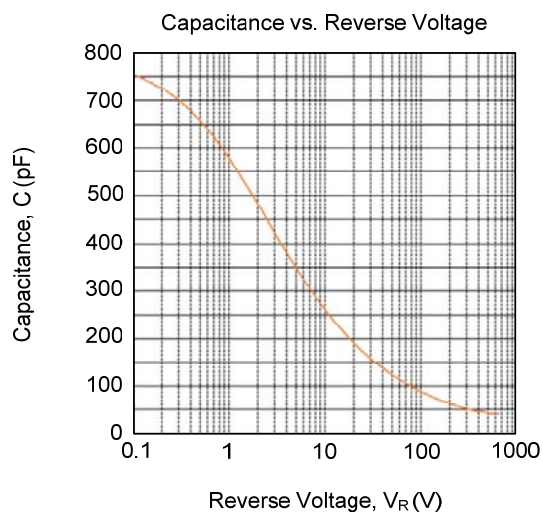
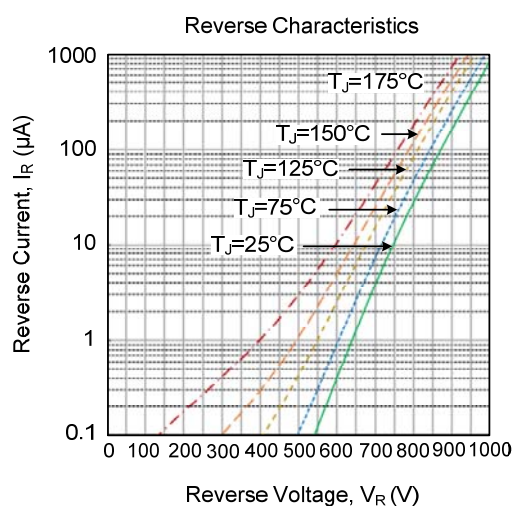
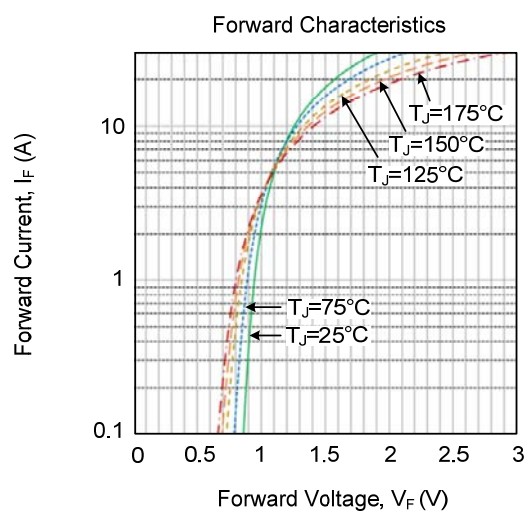
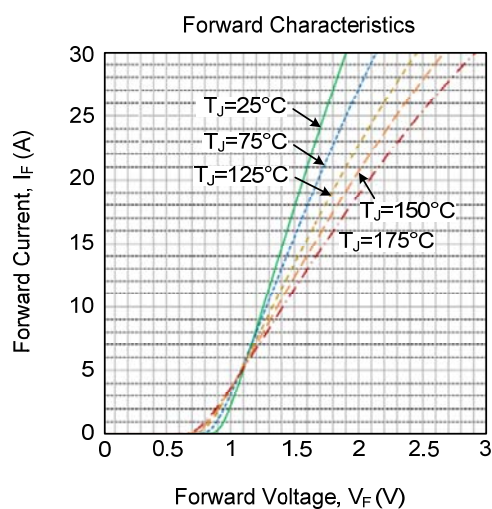
■ ELECTRICAL CHARACTERISTICS

(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 =15A, T _J =25°C		1.4	1.75	V
		I _F =15A, T _J =125°C		1.6		V
		I _F =15A, T _J =175°C		1.75		V
Reverse Current	I _R	V _R =650V, T _J =25°C		2.0	80	μA
		V _R =650V, T _J =125°C		7.0		μA
		V _R =650V, T _J =175°C		25		μA
Total Capacitive Charge	Q _C	V _R =400V, T _J =25°C		33		nC
Total Capacitance	C	V _R =1V, T _J =25°C, f=1MHz		570		pF
		V _R =200V, T _J =25°C, f=1MHz		62		pF
		V _R =400V, T _J =25°C, f=1MHz		48		pF

Note: This is a majority carrier diode, so there is no reverse recovery charge.

TYPICAL CHARACTERISTICS



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