



Solid State Devices, Inc.

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Phone: (562) 404-4474 * Fax: (562) 404-1773
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SDR6642UB Series

300 mA 100 VOLTS, 5 nsec HYPERFAST RECOVERY CENTER TAP & SINGLE DIODE

Designer's Data Sheet

Part Number/Ordering Information^{1/}

SDR6642 CT — —

L Screening^{2/}
 — = Not Screened
 TX = TX Level
 TXV = TXV Level
 S = S Level

L Package Type
 UB = UB Surface Mount Package

L Configuration
 — = Single Die
 CT = Common Cathode
 CA = Common Anode
 D = Doubler

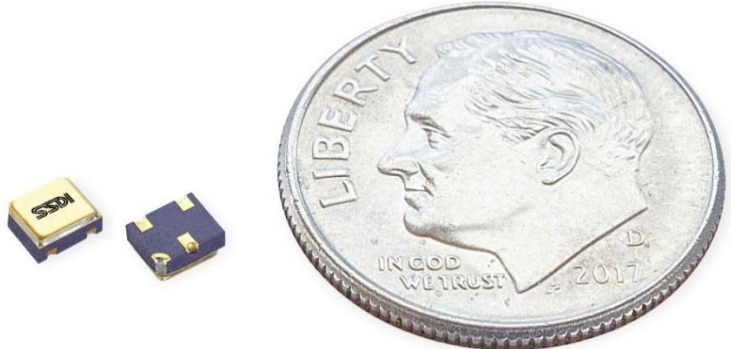
L Device Type (VRWM)
 6642 = 100 V

- FEATURES:**
- Hyperfast Reverse Recovery Time: 3.5 nsec typ
 - Hermetically Sealed Surface Mount Package
 - Planar Passivated Chip
 - Low Capacitance: 1.3 pf typ
 - TX, TXV, and S-Level Screening Available^{2/}
 - Enhanced Replacement for 1N6642UB and 1N6642UBCC, 1N6642UBCA, 1N6642UBD

MAXIMUM RATINGS^{3/}			
RATING	SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage DC Blocking Voltage	V_{RWM} V_R	100	V
Average Rectified Forward Current^{4/} (Resistive Load, 60 Hz, Sine Wave, $T_C = 25^\circ C$)	I_o	300	mA
Peak Surge Current^{4/} (8.3 msec Pulse, Half Sine Wave Superimposed on I_o , allow junction to reach equilibrium between pulses, $T_C = 25^\circ C$)	I_{FSM}	2.5	A
Operating & Storage Temperature	T_{OP} and T_{STG}	-65 to +175	$^\circ C$
Thermal Resistance (Junction to Case)	$R_{\theta JC}$	100	$^\circ C/W$

NOTES: *Pulsed per MIL-STD-750.

- ^{1/} For ordering information, price, and availability - contact factory.
- ^{2/} Screening based on MIL-PRF-19500. Screening flows available on request.
- ^{3/} Unless otherwise specified, all electrical characteristics @ 25°C.
- ^{4/} Per leg for SDR6642CTUB, SDR6642CAUB.



UB

*Dime used for size reference



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ELECTRICAL CHARACTERISTICS^{3/4/}

CHARACTERISTICS		SYM	MIN	TYP	MAX	UNIT
Maximum Instantaneous Forward Voltage Drop (Pulsed, I _F = 10 mA)	T _A = 25°C	V _{F1}	--	0.71	0.8	Vdc
	T _A = 150°C	V _{F2}	--	0.49	0.8	
	T _A = -55°C	V _{F3}	--	0.84	--	
Maximum Instantaneous Forward Voltage Drop (Pulsed, I _F = 100 mA)	T _A = 25°C	V _{F4}	--	0.90	1.2	Vdc
	T _A = 150°C	V _{F5}	--	0.73	--	
	T _A = -55°C	V _{F6}	--	1.00	1.2	
Minimum Breakdown Voltage	I _R = 100 μA	B _{VR}	100	135	--	Vdc
Maximum Reverse Leakage Current (Pulsed, T _A = 25°C)	V _R = 20 V	I _{R1}	--	15	25	nA
	V _R = 100 V		--	80	--	
Maximum Reverse Leakage Current (Pulsed, T _A = 25°C)	V _R = 75 V	I _{R2}	--	80	500	nA
Maximum Reverse Leakage Current (Pulsed, T _A = 150°C)	V _R = 20 V	I _{R3}	--	25	50	μA
	V _R = 100 V		--	60	--	
Maximum Reverse Leakage Current (Pulsed, T _A = 150°C)	V _R = 75 V	I _{R4}	--	40	100	μA
Maximum Junction Capacitance (T _A = 25°C, f = 1 MHz)	V _R = 0 V	C _{J1}	--	1.3	5.0	pF
Maximum Junction Capacitance (T _A = 25°C, f = 1 MHz)	V _R = 1.5 V	C _{J2}	--	1.2	2.8	pF
Maximum Reverse Recovery Time (I _F = I _R = 10 mA, I _{RR} = 1 mA)		t _{rr}	--	3.5	5.0	nsec

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NOTE: All specifications are subject to change without notification.
SCD's for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: RC0207B

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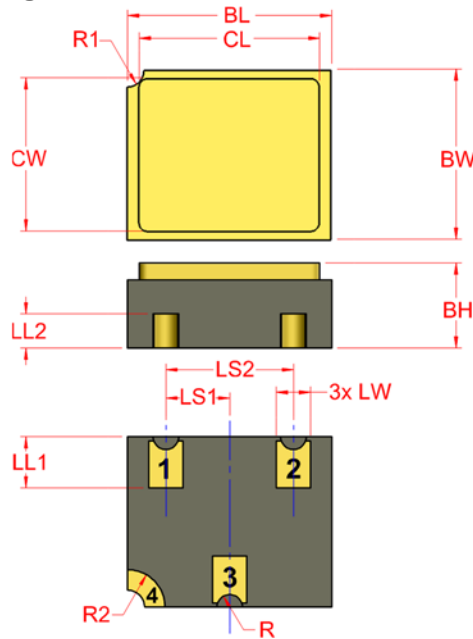


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CASE OUTLINE: UB



*Dimensions are Pre-Solder Dip

DIMENSIONS (in.)

DIM	MIN	MAX
BH	0.046	0.056
BL	0.115	0.128
BW	0.085	0.108
CL	--	0.128
CW	--	0.108
LL1	0.022	0.038
LL2	0.017	0.035
LS1	0.035	0.039
LS2	0.071	0.079
LW	0.016	0.024
R	0.008 REF	
R1	0.012 REF	
R2	0.022 REF	

Pin Assignment

PIN	UB*	CTUB	CAUB	DUB
1	Anode	Anode 1	Cathode 1	Cathode
2	Cathode	Anode 2	Cathode 2	AC
3	Cathode	Cathode	Anode	Anode
4	Shielding (connected to lid)	Shielding (connected to lid)	N/A	N/A
	UB* (Single Die) 	CTUB (Common Cathode) 	CAUB (Common Anode) 	DUB (Doubler)

*For single die (UB) - Recommended to connect Pin 2 & Pin 3 together at the board level.

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