

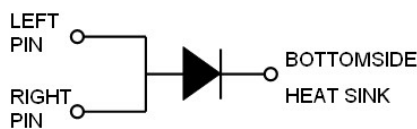
### FEATURES

- ◇ High current capability, low forward voltage
- ◇ Excellent high temperature stability
- ◇ Low power loss, and high efficiency
- ◇ High forward surge capability
- ◇ RoHS compliant, and Halogen free

### ORDERING INFORMATION

- ◇ Device: SD20U45SL
- ◇ Package: TO-277
- ◇ Marking: 20U45
- ◇ Material: Halogen free
- ◇ Packing: Tape & 13" Reel
- ◇ Quantity per reel: 3,000pcs

### PIN CONFIGURATION



### MACHANICAL DATA

- ◇ Case: TO-277 small outline plastic package
- ◇ Terminal: Matte tin plated, solderable per MIL-STD-750, Method 2026
- ◇ Molding Compound Flammability Rating: UL94-0
- ◇ High temperature soldering guaranteed: 260°C/10second
- ◇ Packed with FRP substrate and epoxy underfilled

### APPLICATIONS

- ◇ Switching mode power supply applications
- ◇ Portable equipment battery applications
- ◇ High frequency rectification
- ◇ DC/DC converter
- ◇ Designed as bypass diodes for solar panels

### PACKAGE OUTLINE



### ABSOLUTE MAXIMUM RATING (Tamb=25°C, unless otherwise specified)

Symbol	Parameter	Value	Units
$V_{RRM}$	Repetitive Peak Reverse Voltage	45	V
$I_{F(AV)}$	Average Forward Current	20	A
$I_{FSM}$	Peak Forward Surge Current, 8.3ms single half sine-wave	280	A
$T_J$ & $T_{STG}$	Junction and Storage Temperature	-40~+150	°C

**ELECTRICAL CHARACTERISTICS (T<sub>amb</sub>=25°C, unless otherwise specified)**

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V <sub>F</sub>	Forward Voltage (note 1)	I <sub>F</sub> = 2A		0.31	0.35	V
		I <sub>F</sub> = 8A		0.37	0.38	V
		I <sub>F</sub> = 10A		0.39	0.41	V
		I <sub>F</sub> = 15A		0.45	0.48	V
		I <sub>F</sub> = 20A		0.51	0.54	V
V <sub>BR</sub>	Reverse Breakdown Voltage	I <sub>R</sub> = 0.5mA	45			V
I <sub>R</sub>	Reverse Leakage Current	V <sub>R</sub> = 45V			0.3	mA
		V <sub>R</sub> = 45V, @100°C			40	mA
R <sub>th(JA)</sub>	Thermal Resistance (note 2)			31		°C/W

Note 1: Pulse test width PW=300usec, 1% duty cycle

Note 2: Polyimide PCB, 2oz. copper. Cathode pad dimensions 18.8x14.4mm. Anode pad dimensions 5.6x14.4mm

**ELECTRICAL CHARACTERISTICS CURVE**

Fig 1 Typical Forward Current Derating Curve

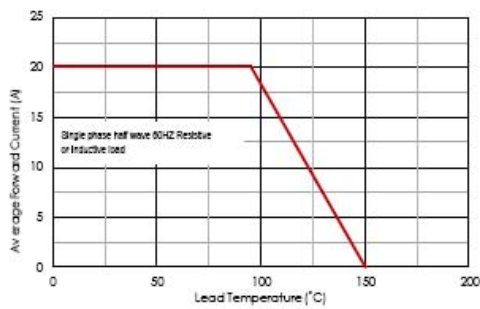


Fig 2 Typical Instantaneous Forward Characteristics

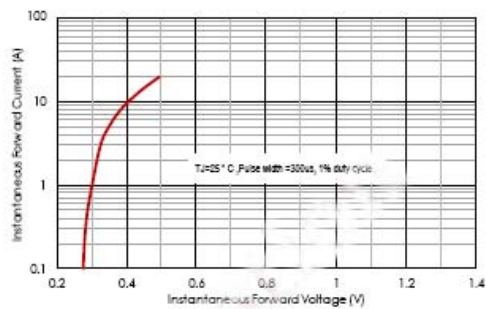
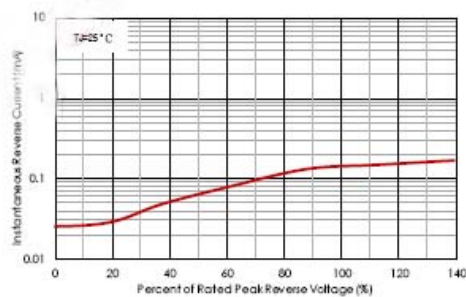
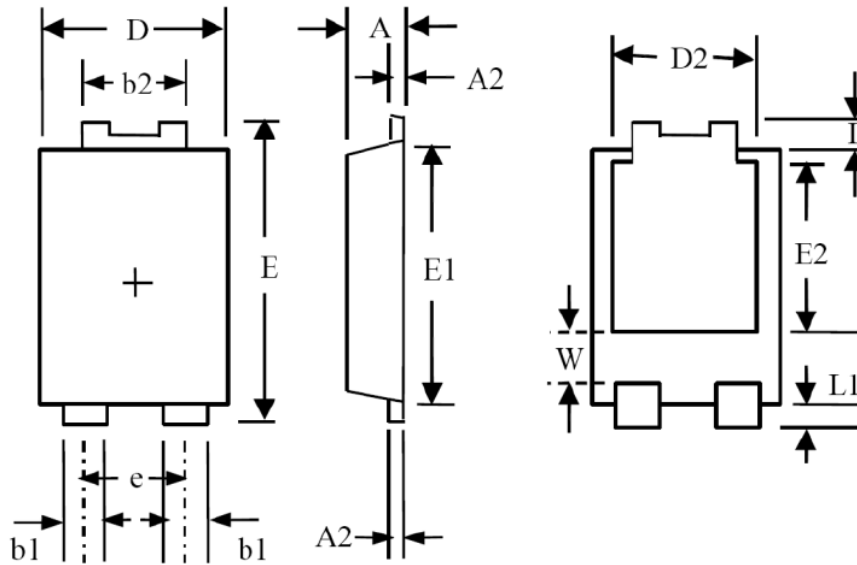


Fig 3 Maximum Non-Repetitive Forward Surge Current



Fig 4 Typical Reverse Characteristics



**TO-277 PACKAGE OUTLINE DIMENSIONS**


No	Dimensions (mm)	No	Dimensions (mm)
A	$1.25 \pm 0.10$	e	1.84 Typ
A2	$0.25 \pm 0.05$	E1	$5.30 \pm 0.10$
b1	$0.90 \pm 0.10$	E2	$3.50 \pm 0.10$
b2	$1.80 \pm 0.10$	L	$0.80 \pm 0.15$
D	$3.95 \pm 0.10$	L1	$0.60 \pm 0.10$
D2	3.00 Typ	W	$1.30 \pm 0.20$
E	$1.25 \pm 0.10$		