



# Solid State Devices, Inc.

14701 Firestone Blvd. \* La Mirada, Ca 90638  
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## SED20HB45LV, SED20HE45LV and SED20HF45LV

### Designer's Data Sheet

**Part Number / Ordering Information** <sup>1/</sup>

**SED20\_\_45LV\_\_**

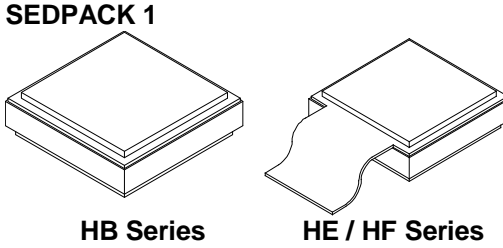
- L Screening<sup>2/</sup> = None
  - TX = TX Level
  - TXV = TXV Level
  - S = S Level
- L Configuration
  - HB = without lead
  - HE = with lead
  - HF = with lead, reverse polarity

### 20 AMP 45 VOLTS LOW VF SCHOTTKY RECTIFIER

- FEATURES:**
- Low Reverse Leakage
  - Very Low Forward Voltage Drop
  - Hermetically Sealed Power Surface Mount Package
  - Guard Ring for Overvoltage Protection
  - Eutectic Die Attach
  - 175°C Operating Temperature
  - TX, TXV, and Space Level Screening Available<sup>2/</sup>

MAXIMUM RATINGS		Symbol	Value	Units
Peak Repetitive Reverse Voltage and DC Blocking Voltage		$V_{RRM}$ $V_{RWM}$ $V_R$	45	Volts
Average Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave, $T_A = 100^\circ\text{C}$ )		$I_o$	20	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, 1 pulse, $T_A = 25^\circ\text{C}$ )		$I_{FSM}$	250	Amps
Operating and Storage Temperature		$T_{OP}$ & $T_{stg}$	-55 to +175	°C
Maximum Thermal Resistance Junction to Case	SED20HB45LV SED20HE45LV SED20HF45LV	$R_{\theta JC}$	1.25 1.25 3.00	°C/W

Notes:  
 1/ For Ordering Information, Price, Operating Curves, and Availability – Contact Factory.  
 2/ Screening based on MIL-PRF-19500. Screening flows available on request.





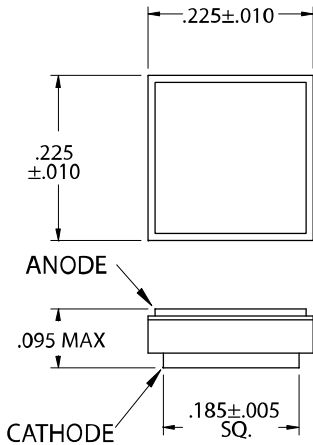
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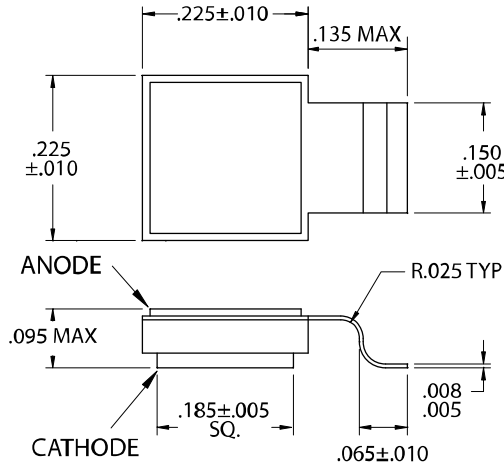
**SED20HB45LV,  
 SED20HE45LV and  
 SED20HF45LV**

ELECTRICAL CHARACTERISTICS		Symbol	Maximum	Typical	Unit
Instantaneous Forward Voltage Drop ( $I_F = 5 A_{DC}$ , 300-500 $\mu$ sec Pulse)	$T_A = -55^\circ C$	$V_{F1}$	-	0.45	$V_{DC}$
	$T_A = 25^\circ C$	$V_{F2}$	0.425	0.40	
	$T_A = 125^\circ C$	$V_{F3}$	-	0.30	
Instantaneous Forward Voltage Drop ( $I_F = 10 A_{DC}$ , 300-500 $\mu$ sec Pulse)	$T_A = -55^\circ C$	$V_{F4}$	-	0.54	$V_{DC}$
	$T_A = 25^\circ C$	$V_{F5}$	0.48	0.45	
	$T_A = 125^\circ C$	$V_{F6}$	0.43	0.38	
Instantaneous Forward Voltage Drop ( $I_F = 20 A_{DC}$ , 300-500 $\mu$ sec Pulse)	$T_A = -55^\circ C$	$V_{F7}$	-	0.60	$V_{DC}$
	$T_A = 25^\circ C$	$V_{F8}$	0.59	0.55	
	$T_A = 125^\circ C$	$V_{F9}$	-	0.52	
Reverse Leakage Current (Rated $V_R$ , 300 $\mu$ sec pulse minimum)	$T_A = 25^\circ C$	$I_{R1}$	1	0.125	mA
	$T_A = 100^\circ C$	$I_{R2}$	-	20	
	$T_A = 125^\circ C$	$I_{R3}$	50	25	
Junction Capacitance ( $T_A = 25^\circ C$ , $f = 1$ MHz)	$V_R = 5V$	$C_{J1}$	900	720	pF
	$V_R = 10V$	$C_{J2}$	-	540	

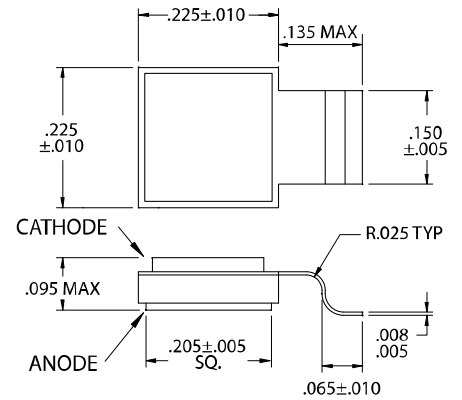
CASE OUTLINE: SED20HB45LV



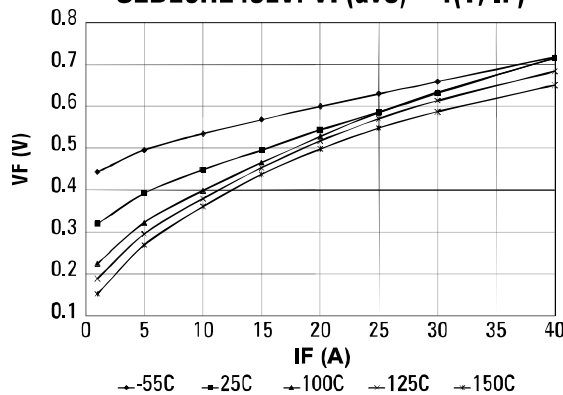
CASE OUTLINE: SED20HE45LV



CASE OUTLINE: SED20HF45LV



SED20HE45LV:  $V_F(ave) = f(T, I_F)$



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

DATA SHEET #: SH0054A

DOC