

# SED90HE25CT and SED90HE35CT Series

## SURFACE MOUNT 90 AMP, 25 – 35 VOLTS SUPER CENTERTAP SCHOTTKY RECTIFIER

### Designer's Data Sheet

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

**SED90HE 25 CT**

L Screening<sup>2/</sup>  
 \_\_\_\_\_ = None  
 TX = TX Level  
 TXV = TXV Level  
 S = S Level

L Lead Orientation  
 1 = Front Mount  
 2 = Side Mount  
 3 = Split Mount

L Voltage  
 25 = 25 volts  
 35 = 35 volts

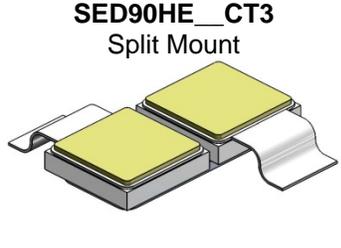
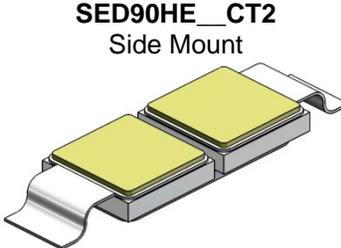
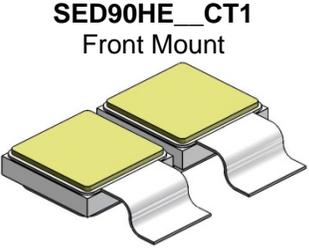
**FEATURES:**  
 Optimized for 2.1V and 3.3V output power supplies. The SUPER SCHOTTKY series has been designed to provide ultra low forward voltage drops at low operating temperatures of 75°C.

- Low  $V_F$ , typically 380mV (per leg) at 75°C
- Low reverse leakage
- Surface mountable
- Guard ring for overvoltage protection and ruggedness
- Eutectic die attach
- 125°C operating temperature
- Hermetic hot case version (Isolated versions available – contact factory)
- Smaller footprint than TO-25X packages
- Weight: 0.65 g typ
- TX, TXV, and Space level screening available<sup>2/</sup>

Typical applications include parallel switching power supplies, converters, battery protection circuits, and redundant power subsystems.

MAXIMUM RATINGS (per leg)	Symbol	Value	Units
Peak Repetitive Reverse Voltage and DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	25 35	Volts
Average Rectified Forward Current (Resistive load, 60 Hz, sine wave, $T_J = 75^\circ\text{C}$ )	$I_O$	45	Amps
Peak Surge Current (8.3 ms pulse, half sine wave superimposed on $I_O$ , allow junction to reach equilibrium between pulses, $T_J = 25^\circ\text{C}$ )	$I_{FSM}$	350	Amps
Operating and Storage Temperature	$T_{OP} \ \& \ T_{stg}$	-55 to +125	°C
Maximum Thermal Resistance (Junction to Case)	$R_{\theta JC}$	1.25	°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.





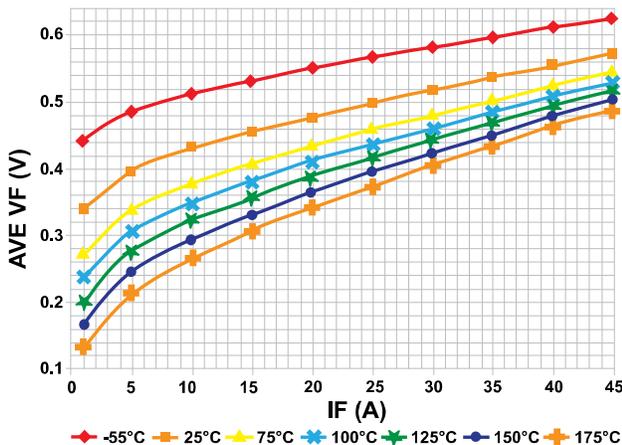
**Solid State Devices, Inc.**

14701 Firestone Blvd. \* La Mirada, Ca 90638  
 Phone: (562) 404-4474 \* Fax: (562) 404-1773  
 ssdi@ssdi-power.com \* www.ssdi-power.com

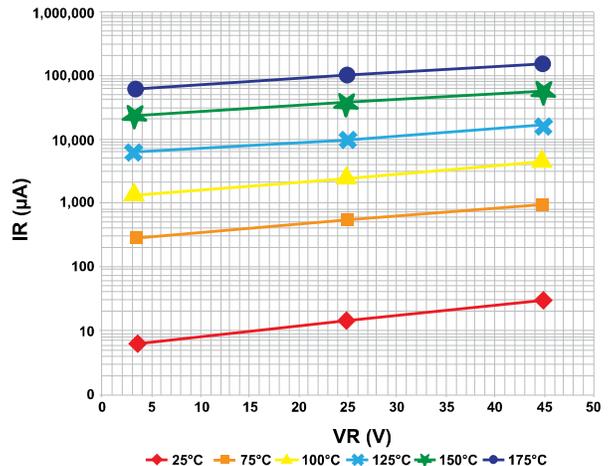
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ELECTRICAL CHARACTERISTICS (per leg)		Symbol	Typical	Maximum	Unit
<b>Instantaneous Forward Voltage Drop</b> ( $T_J = 25^\circ\text{C}$ , 300 - 500 $\mu\text{sec}$ pulse)	$I_F = 10 A_{DC}$	$V_{F1a}$	0.43	0.45	$V_{DC}$
	$I_F = 20 A_{DC}$	$V_{F1b}$	0.48	0.52	
	$I_F = 35 A_{DC}$	$V_{F1c}$	0.54	-	
	$I_F = 45 A_{DC}$	$V_{F1d}$	0.57	0.70	
<b>Instantaneous Forward Voltage Drop</b> ( $T_J = 75^\circ\text{C}$ , 300 - 500 $\mu\text{sec}$ pulse)	$I_F = 10 A_{DC}$	$V_{F2a}$	0.38	0.42	$V_{DC}$
	$I_F = 20 A_{DC}$	$V_{F2b}$	0.43	-	
	$I_F = 35 A_{DC}$	$V_{F2c}$	0.50	-	
	$I_F = 45 A_{DC}$	$V_{F2d}$	0.55	-	
<b>Instantaneous Forward Voltage Drop</b> ( $T_J = 100^\circ\text{C}$ , 300 - 500 $\mu\text{sec}$ pulse)	$I_F = 10 A_{DC}$	$V_{F3a}$	0.35	-	$V_{DC}$
	$I_F = 20 A_{DC}$	$V_{F3b}$	0.41	-	
	$I_F = 35 A_{DC}$	$V_{F3c}$	0.49	-	
	$I_F = 45 A_{DC}$	$V_{F3d}$	0.53	-	
<b>Instantaneous Forward Voltage Drop</b> ( $T_J = 125^\circ\text{C}$ , 300 - 500 $\mu\text{sec}$ pulse)	$I_F = 10 A_{DC}$	$V_{F4a}$	0.32	-	$V_{DC}$
	$I_F = 20 A_{DC}$	$V_{F4b}$	0.39	0.45	
	$I_F = 35 A_{DC}$	$V_{F4c}$	0.47	-	
	$I_F = 45 A_{DC}$	$V_{F4d}$	0.52	0.65	
<b>Instantaneous Forward Voltage Drop</b> ( $T_J = -55^\circ\text{C}$ , 300 - 500 $\mu\text{sec}$ pulse)	$I_F = 10 A_{DC}$	$V_{F6a}$	0.51	-	$V_{DC}$
	$I_F = 20 A_{DC}$	$V_{F6b}$	0.55	-	
	$I_F = 35 A_{DC}$	$V_{F6c}$	0.60	-	
	$I_F = 45 A_{DC}$	$V_{F6d}$	0.63	-	
<b>Reverse Leakage Current</b> ( $T_J = 25^\circ\text{C}$ , 300 $\mu\text{sec}$ pulse minimum)	$V_R = 3.3V_{DC}$	$I_{R1a}$	6.5	25	$\mu\text{A}$
	$V_R = 25V_{DC}$	$I_{R1b}$	15	100	
	$V_R = 35V_{DC}$	$I_{R1c}$	25	100	
<b>Reverse Leakage Current</b> ( $T_J = 75^\circ\text{C}$ , 300 $\mu\text{sec}$ pulse minimum)	$V_R = 3.3V_{DC}$	$I_{R2a}$	0.3	1	$\text{mA}$
	$V_R = 25V_{DC}$	$I_{R2b}$	0.55	5	
	$V_R = 35V_{DC}$	$I_{R2c}$	0.9	5	
<b>Reverse Leakage Current</b> ( $T_J = 100^\circ\text{C}$ , 300 $\mu\text{sec}$ pulse minimum)	$V_R = 3.3V_{DC}$	$I_{R3a}$	1.5	-	$\text{mA}$
	$V_R = 25V_{DC}$	$I_{R3b}$	2.5	-	
	$V_R = 35V_{DC}$	$I_{R3c}$	4.0	-	
<b>Reverse Leakage Current</b> ( $T_J = 125^\circ\text{C}$ , 300 $\mu\text{sec}$ pulse minimum)	$V_R = 3.3V_{DC}$	$I_{R4a}$	6.5	20	$\text{mA}$
	$V_R = 25V_{DC}$	$I_{R4b}$	10	100	
	$V_R = 35V_{DC}$	$I_{R4c}$	15	100	
<b>Junction Capacitance</b> ( $T_J = 25^\circ\text{C}$ , $f = 1 \text{ MHz}$ )	$V_R = 5V_{DC}$	$C_{J1}$	3000	3750	$\text{pF}$
	$V_R = 10V_{DC}$	$C_{J2}$	1450	-	

SED90HE35CT Series  
per leg



SED90HE35CT Series  
per leg



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

**DATA SHEET #: SH0106A**

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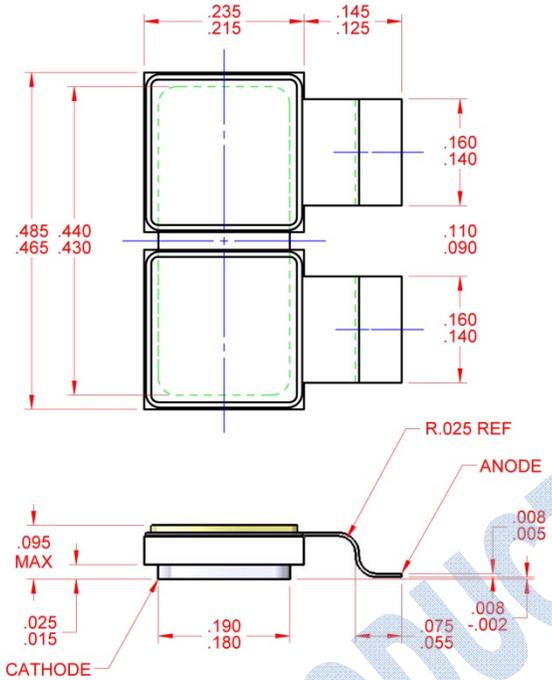


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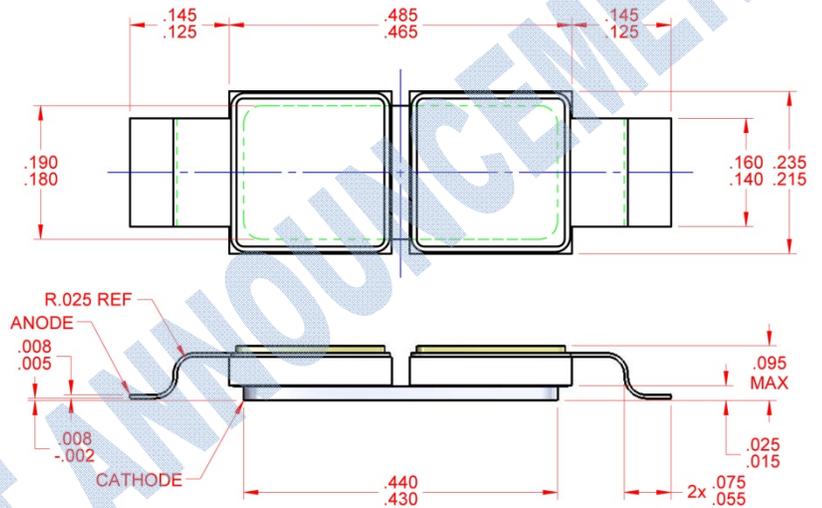
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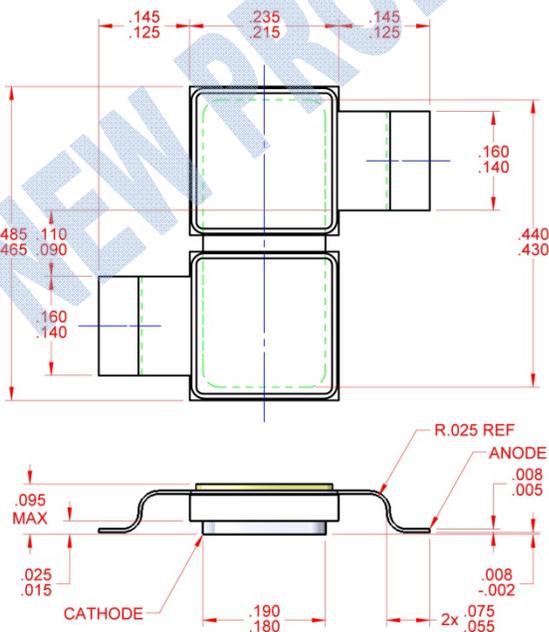
**CASE OUTLINE: SED90HE35CT1**



**CASE OUTLINE: SED90HE35CT2**



**CASE OUTLINE: SED90HE35CT3**



Configuration	Base	Leads
Common Cathode (CT)	Cathode	Anode

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