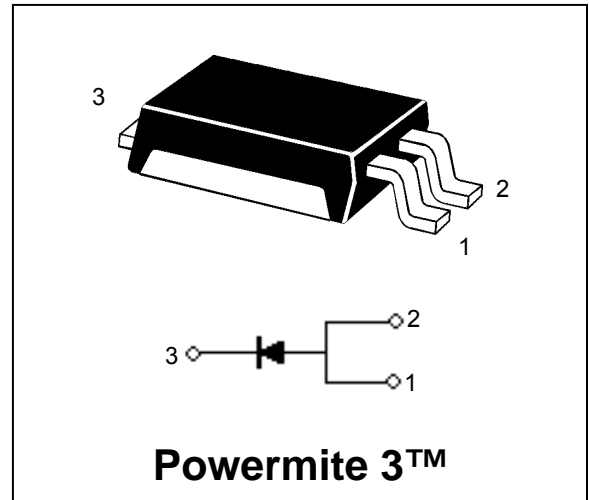


Main product characteristics

I_O	8A
V_{RRM}	40V
$T_{j(MAX)}$	125°C
$V_{F(MAX)}$	0.42V



Features and benefits

- Low forward voltage drop
- Low profile package height
- Integral locking bottom metal tab give high reliability
- Full metal bottom gives very low thermal resistance
- RoHS compliant (2002/95/EC), MSL level 1 (J-STD-020) , Halogen free (IEC 61249-2-21)
- Molding compound meets UL 94V-0 flammability rating

Description and applications

Single schottky rectifier assembled in Powermite 3[®] package which features a full metallic bottom that eliminates possibility of solder flux entrapment during assembly. The package also incorporates a unique locking tab which acts as an efficient heat path from die to mounting plane for external heat sinking with very low thermal resistance junction to case (bottom).

This product is suitable for use in switching, regulating power supplies and polarity protection applications.

Absolute maximum ratings⁽¹⁾

Symbol	Parameter	Value	Unit
V_{RRM}	Peak Repetitive Reverse Voltage	40	V
V_{RWM}	Working Peak Reverse Voltage		
V_R	DC Blocking Voltage		
$V_{R(RMS)}$	RMS Reverse Voltage	28	V
I_O	Average rectified forward output current ($T_C = 135^\circ\text{C}$)	8.0	A
I_{FSM}	Non repetitive peak forward surge current (8.3ms single half sine wave)	150	A
T_{STG}	Storage temperature	-55 to +150	°C
T_J	Junction temperature	-55 to +125	°C

⁽¹⁾ All ratings at 25°C unless specified otherwise

Characteristics

Static Electrical Characteristics

Symbol	Parameter	Test Conditions		min	Typ	max	Units
$V_F^{(2)}$	Maximum forward voltage	$T_J = 25^\circ\text{C}$	$I_F = 3.0\text{ A}$			0.39	V
			$I_F = 8.0\text{ A}$			0.45	
		$T_J = 125^\circ\text{C}$	$I_F = 3.0\text{ A}$			0.36	
			$I_F = 8.0\text{ A}$			0.42	
$I_R^{(2)}$	Maximum instantaneous reverse current	$T_J = 25^\circ\text{C}$	$V_R = 40\text{V}$			5	mA
		$T_J = 125^\circ\text{C}$	$V_R = 40\text{V}$			20	mA
$V_{BR}^{(2)}$	Reverse Breakdown voltage	$I_R = 0.5\text{ mA}$		40			
C_T	Junction capacitance	$V_R = 4\text{V}, f = 1\text{MHz}$			350		pF

⁽²⁾ Measured with a test pulse of 380 μs to minimize self-heating effect

Thermal Characteristics

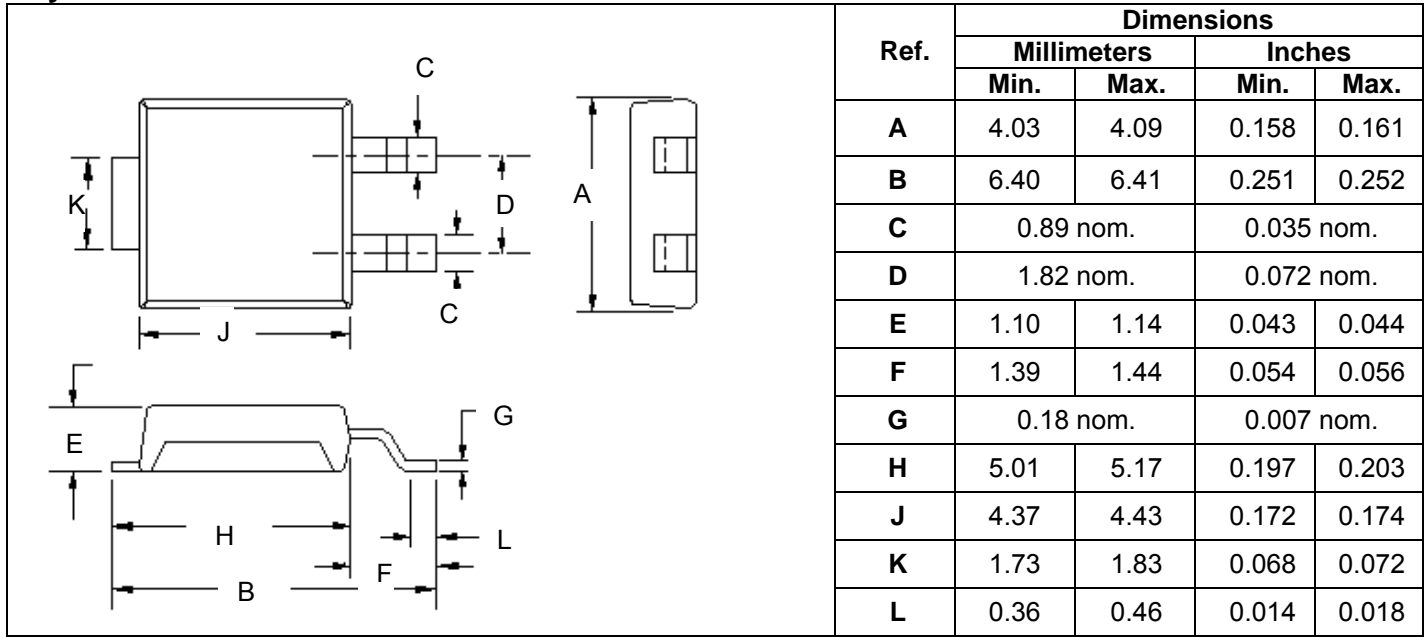
Symbol	Parameter	Value	Unit
$R_{\theta JC}$	Junction to case (bottom)	3.2	$^\circ\text{C/W}$
$R_{\theta JA}$	Junction to ambient ⁽³⁾	65	$^\circ\text{C/W}$

⁽³⁾ Mounted on FR-4 PC board using 2oz copper with recommended minimum foot print

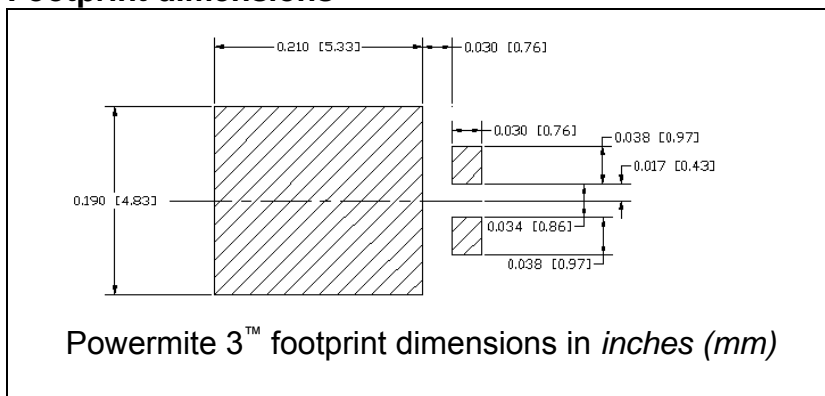
- Notes: 1. $T_A = T_{\text{SOLDERING POINT}}$, $R_{\theta JS} = 3.2^\circ\text{C/W}$ $R_{\theta SA} = 0^\circ\text{C/W}$.
 2. Device mounted on GETEK substrate, 2" x 2", 2 oz. copper, double-sided, cathode pad dimensions 0.75" x 1.0", anode pad dimensions 0.25" x 1.0". $R_{\theta JA}$ in range of 20-40 $^\circ\text{C/W}$.
 3. Device mounted on FRA-4 substrate, 2" x 2", 2 oz. copper, single-sided, pad layout $R_{\theta JA}$ in range of 65 $^\circ\text{C/W}$. See foot print dimensions

Mechanical Characteristics

Physical dimensions



Footprint dimensions



Package materials & information

Case : Epoxy meets UL94V-0

Electrode finish : Matte Sn plating - fully RoHS compliant

Marking code :

S840

Ordering information

Product order code	Marking	Package	Weight	Base qty	Delivery mode
UPS840e3 / TR13	S840	Powermite 3	0.072 g	5000	Tape and reel (13 inch)

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