

**ELECTRICAL SPECIFICATIONS**

PARAMETER	SYMBOL	TEST CONDITIONS	VALUES	UNITS
Maximum forward voltage drop	V_{FM}	20 A, $T_J = 25^\circ\text{C}$	1.0	V
		40 A, $T_J = 25^\circ\text{C}$	1.1	
Forward slope resistance	r_t	$T_J = 150^\circ\text{C}$	7.16	m Ω
Threshold voltage	$V_{F(TO)}$		0.74	V
Maximum reverse leakage current	I_{RM}	$T_J = 25^\circ\text{C}$	0.1	mA
		$T_J = 150^\circ\text{C}$	1.0	

THERMAL - MECHANICAL SPECIFICATIONS

PARAMETER	SYMBOL	TEST CONDITIONS	VALUES	UNITS
Maximum junction and storage temperature range	T_J, T_{Stg}		-40 to +150	$^\circ\text{C}$
Maximum thermal resistance, junction to case	R_{thJC}	DC operation	0.6	$^\circ\text{C/W}$
Maximum thermal resistance, junction to ambient	R_{thJA}		40	
Typical thermal resistance, case to heatsink	R_{thCS}	Mounting surface, flat, smooth and greased	0.2	
Approximate weight			6	g
			0.21	oz.
Mounting torque	minimum		6 (5)	kgf · cm (lbf · in)
	maximum		12 (10)	
Marking device		Case style TO-247AC modified (JEDEC)	40EPS08	
			40EPS12	

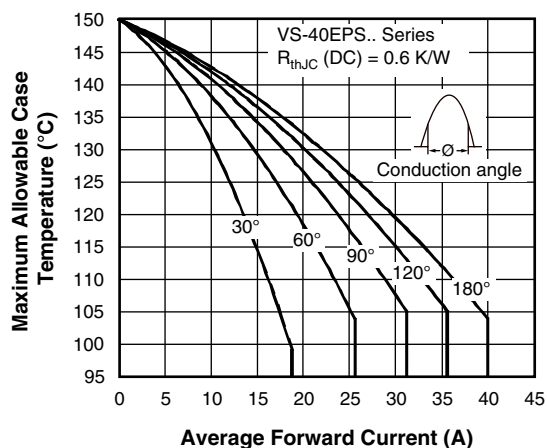


Fig. 1 - Current Rating Characteristics

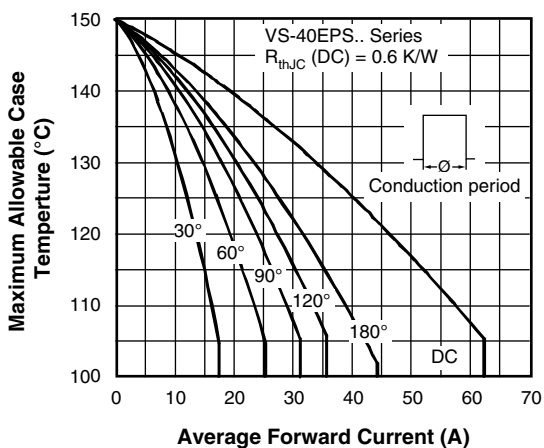


Fig. 2 - Current Rating Characteristics

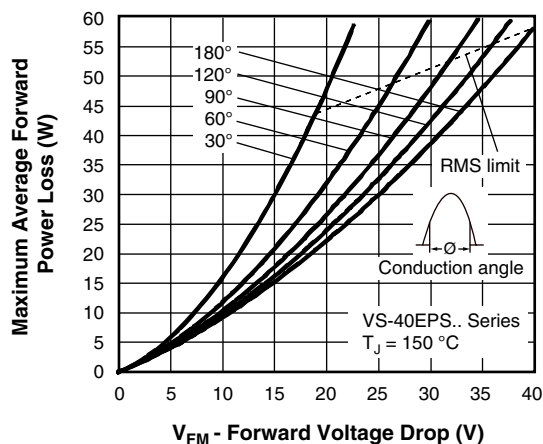


Fig. 3 - Forward Power Loss Characteristics

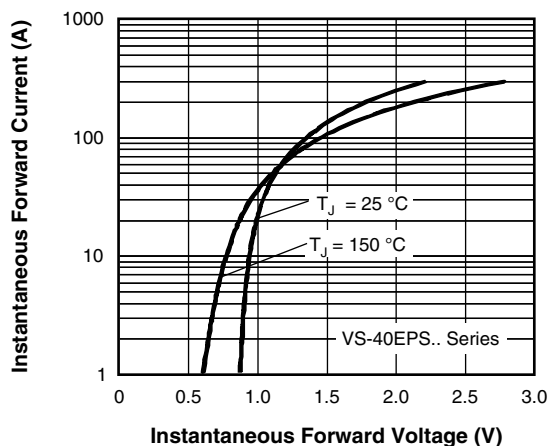


Fig. 5 - Forward Voltage Drop Characteristics

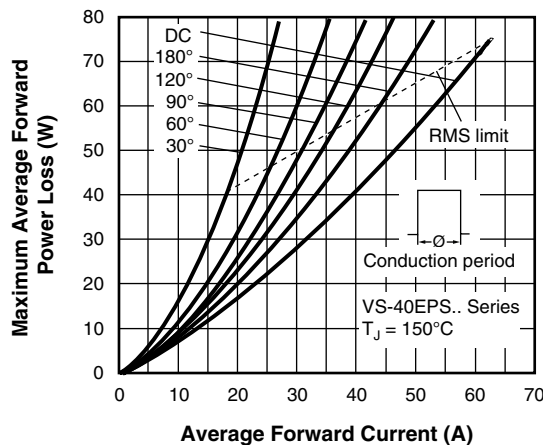


Fig. 4 - Forward Power Loss Characteristics

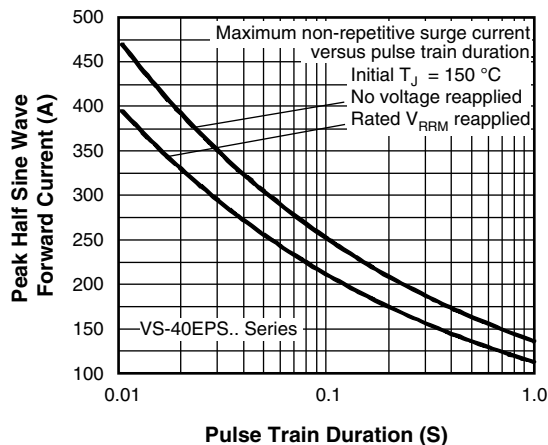


Fig. 6 - Maximum Non-Repetitive Surge Current

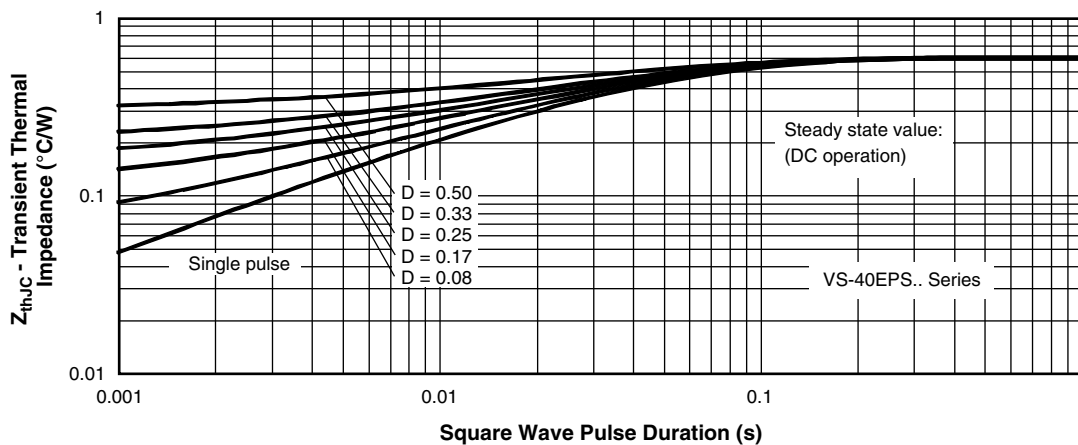


Fig. 7 - Thermal Impedance Z_{thJC} Characteristics

**ORDERING INFORMATION TABLE**

Device code	VS-	40	E	P	S	12	PbF
	1	2	3	4	5	6	7
1	- Vishay Semiconductors product						
2	- Current rating (40 = 40 A)						
3	- Circuit configuration: E = single diode						
4	- Package: P = TO-247AC modified						
5	- Type of silicon: S = standard recovery rectifier						
6	- Voltage rating						
7	- Environmental digit: PbF = lead (Pb)-free and RoHS-compliant -M3 = halogen-free, RoHS-compliant, and terminations lead (Pb)-free						

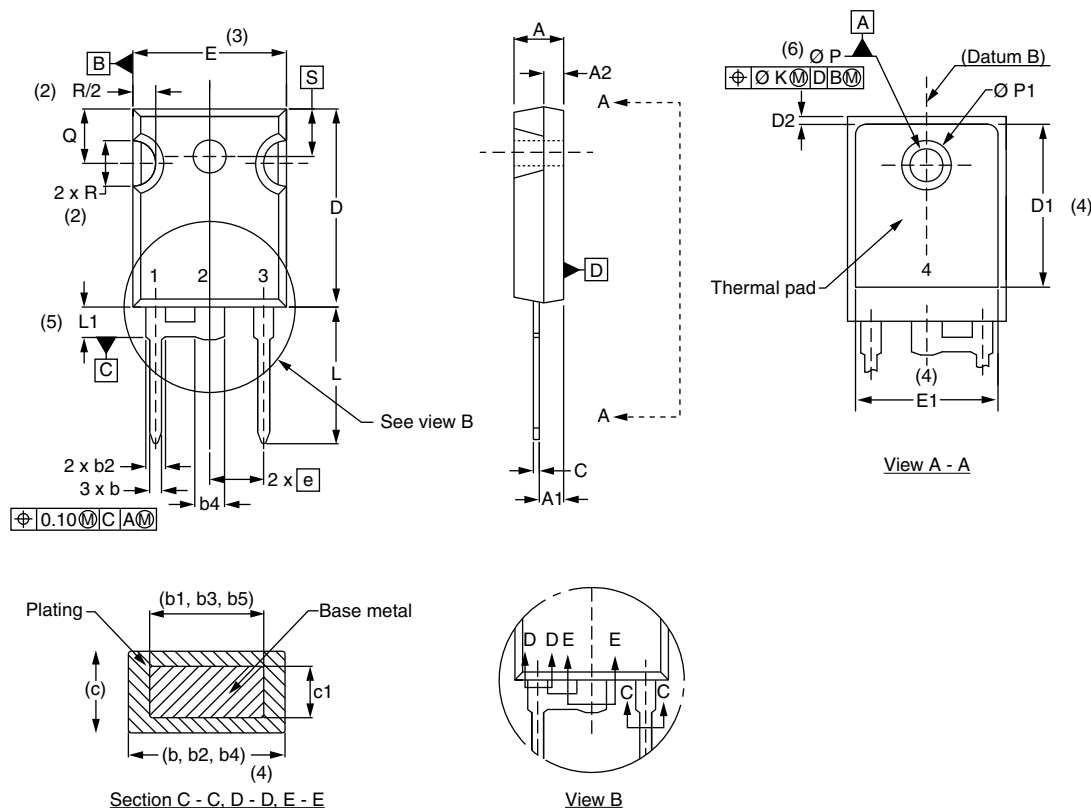
08 = 800 V
12 = 1200 V

ORDERING INFORMATION (Example)			
PREFERRED P/N	QUANTITY PER T/R	MINIMUM ORDER QUANTITY	PACKAGING DESCRIPTION
VS-40EPS08PbF	25	500	Antistatic plastic tubes
VS-40EPS08-M3	25	500	Antistatic plastic tubes
VS-40EPS12PbF	25	500	Antistatic plastic tubes
VS-40EPS12-M3	25	500	Antistatic plastic tubes

LINKS TO RELATED DOCUMENTS	
Dimensions	www.vishay.com/doc?95541
Part marking information	TO-247AC modified PbF www.vishay.com/doc?95255
	TO-247AC modified -M3 www.vishay.com/doc?95442
SPICE model	www.vishay.com/doc?96047

TO-247AC modified - 50 mils L/F

DIMENSIONS in millimeters and inches



SYMBOL	MILLIMETERS		INCHES		NOTES		SYMBOL	MILLIMETERS		INCHES		NOTES
	MIN.	MAX.	MIN.	MAX.				MIN.	MAX.			
A	4.65	5.31	0.183	0.209			D2	0.51	1.35	0.020	0.053	
A1	2.21	2.59	0.087	0.102			E	15.29	15.87	0.602	0.625	3
A2	1.17	1.37	0.046	0.054			E1	13.46	-	0.53	-	
b	0.99	1.40	0.039	0.055			e	5.46 BSC		0.215 BSC		
b1	0.99	1.35	0.039	0.053			Ø K	0.254		0.010		
b2	1.65	2.39	0.065	0.094			L	14.20	16.10	0.559	0.634	
b3	1.65	2.34	0.065	0.092			L1	3.71	4.29	0.146	0.169	
b4	2.59	3.43	0.102	0.135			Ø P	3.56	3.66	0.14	0.144	
b5	2.59	3.38	0.102	0.133			Ø P1	-	7.39	-	0.291	
c	0.38	0.89	0.015	0.035			Q	5.31	5.69	0.209	0.224	
c1	0.38	0.84	0.015	0.033			R	4.52	5.49	0.178	0.216	
D	19.71	20.70	0.776	0.815	3		S	5.51 BSC		0.217 BSC		
D1	13.08	-	0.515	-	4							

Notes

- (1) Dimensioning and tolerance per ASME Y14.5M-1994
- (2) Contour of slot optional
- (3) Dimension D and E do not include mold flash. Mold flash shall not exceed 0.127 mm (0.005") per side. These dimensions are measured at the outermost extremes of the plastic body
- (4) Thermal pad contour optional with dimensions D1 and E1
- (5) Lead finish uncontrolled in L1
- (6) Ø P to have a maximum draft angle of 1.5 to the top of the part with a maximum hole diameter of 3.91 mm (0.154")
- (7) Outline conforms to JEDEC® outline TQ-247 with exception of dimension c and Q



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