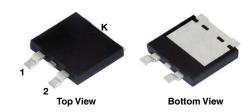
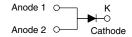


Surface-Mount Low V_F Standard Rectifiers

eSMP® Series SMPD (TO-263AC)



SE20DX



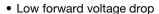
LINKS TO ADDITIONAL RESOURCES



PRIMARY CHARACTERISTICS					
I _{F(AV)}	20 A				
V _{RRM}	400 V, 600 V				
I _{FSM}	200 A				
V _F at I _F = 20 A (T _A = 125 °C)	0.85 V				
T _J max.	175 °C				
Package	SMPD (TO-263AC)				
Circuit configuration	Single				

FEATURES





• AEC-Q101 qualified available

 Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

 Material categorization: for definitions of compliance please see www.vishav.com/doc?99912

AUTOMOTIVE GRADE Available



ROHS COMPLIANT HALOGEN FREE

TYPICAL APPLICATIONS

General purpose, power line polarity protection, in both consumer and automotive applications.

MECHANICAL DATA

Case: SMPD (TO-263AC)

Molding compound meets UL 94 V-0 flammability rating Base P/N-M3 - halogen-free, RoHS-compliant, and

commercial grade

Base P/NHM3 - halogen-free, RoHS-compliant, and

AEC-Q101 qualified

Terminals: matte tin plated leads, solderable per

J-STD-002 and JESD 22-B102

M3 and HM3 suffix meet JESD 201 class 2 whisker test

Polarity: as marked

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	SE20DLG	SE20DLJ	UNIT	
Device marking code		SE20DLG	SE20DLJ		
Maximum repetitive peak reverse voltage	V_{RRM}	400	600	V	
Maximum DC forward current	I _F ⁽¹⁾	20		A	
	I _F ⁽²⁾	3.9			
Peak forward surge current 10 ms single half sine-wave superimposed on rated load	I _{FSM}	200		А	
Operating junction and storage temperature range	T _J , T _{STG} ⁽³⁾	-55 to +175 °C		°C	

Notes

- (1) Mounted on infinite heatsink
- (2) Free air, mounted on recommended copper pad area
- $^{(3)}$ The heat generated must be less than the thermal conductivity from junction to ambient dP_D/dT_J < R_{thJA}





ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT
Instantaneous forward voltage	I _F = 10 A	T _A = 25 °C		0.86	-	V
	I _F = 20 A		V _E (1)	0.95	1	
	I _F = 10 A	T _A = 125 °C	VF (')	0.73	-	
	I _F = 20 A			0.85	0.9	
Reverse current	Rated V _R	T _A = 25 °C	I _R ⁽²⁾	-	5	
	naieu v _R	T _A = 125 °C		13	100	- μΑ
Typical reverse recovery time	I _F = 0.5 A, I _R = 1.0 A, I _{rr} = 0.25 A		t _{rr}	330	-	ns
Typical junction capacitance	4.0 V, 1 MHz		CJ	160	-	pF

Notes

(1) Pulse test: 300 μs pulse width, 1 % duty cycle

(2) Pulse test: Pulse width ≤ 40 ms

THERMAL CHARACTERISTICS (T _A = 25 °c unless otherwise noted)				
PARAMETER	SYMBOL	SE20DLG SE20DLJ		
Typical thermal resistance	R _{0JA} (1)(2)	55		°C/W
Typical thermal resistance	R _{0JM} (3)		1	C/VV

Notes

- (1) The heat generated must be less than the thermal conductivity from junction-to-ambient: $dP_D/dT_J < 1/R_{\theta JA}$
- (2) Free air, mounted on recommended PCB, 2 oz. pad area; thermal resistance R_{θJA} junction to ambient to follow JEDEC[®] 51-2A
- (3) Mounted on infinite heatsink thermal resistance R_{thJM} junction to mount to follow JEDEC® 51-14 transient dual interface test method (TDIM)

ORDERING INFORMATION (Example)						
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE		
SE20DLJ-M3/I	0.543	I	2000/reel	13" diameter plastic tape and reel		
SE20DLJHM3/I (1)	0.543	I	2000/reel	13" diameter plastic tape and reel		

Note

(1) AEC-Q101 qualified



RATINGS AND CHARACTERISTICS CURVES ($T_A = 25$ °C unless otherwise noted)

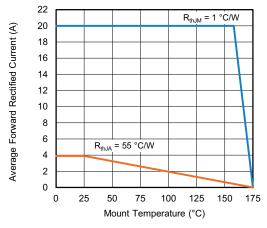


Fig. 1 - Forward Current Derating Curve

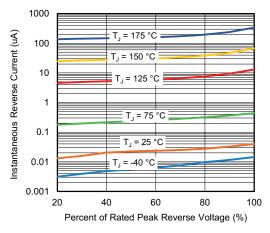


Fig. 4 - Typical Reverse Leakage Characteristics

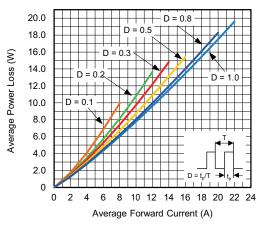


Fig. 2 - Forward Power Loss Characteristics

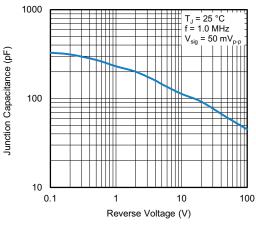


Fig. 5 - Typical Junction Capacitance

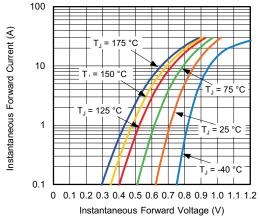


Fig. 3 - Typical Instantaneous Forward Characteristics

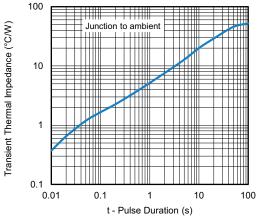
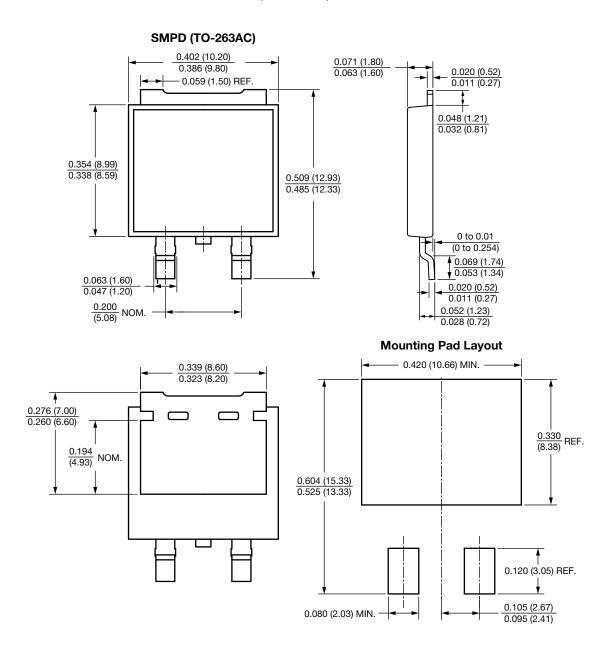


Fig. 6 - Typical Transient Thermal Impedance



PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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