



Surface Mount Ultra Fast Recovery Rectifier

Features

- Low profile package
- Ideal for automated placement
- Guardring for overvoltage protection
- Low power losses, high efficiency
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

Typical Applications

For use in low voltage high frequency inverters, freewheeling, DC/DC converters, and polarity protection applications.

Mechanical Date

Package: SOD-123HE

Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free

Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102

Polarity: Cathode line denotes the cathode end

Maximum Ratings (T_a=25 Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	U1AE	U1BE	U1CE	U1DE	U1FE	U1GE	U1HE	U1JE
Device marking code			U1AE	U1BE	U1CE	U1DE	U1FE	U1GE	U1HE	U1JE
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	V	50	100	150	200	300	400	500	600
Maximum RMS Voltage	V _{RMS}	V	35	70	105	140	210	280	350	420
Maximum DC blocking Voltage	V _{DC}	V	50	100	150	200	300	400	500	600
Average rectified output current @60Hz sine wave, Resistance load, TL (FIG.1)	I _O	A	1.0							
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, T _j =25	I _{FSM}	A	30							
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, T _j =25			60							
Current squared time @1ms t 8.3ms T _j =25	I ² t	A ² s	3.735							
Storage temperature	T _{stg}		-55 ~ +150							
Junction temperature	T _j	M-55 ~ +150	M							



U1AE THRU U1JE

Electrical Characteristics ($T_a=25$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	U1AE	U1BE	U1CE	U1DE	U1FE	U1GE	U1HE	U1JE
Maximum instantaneous forward voltage	V_F	V	$I_{FM}=1.0A$			0.92		1.25			1.7



U1AE THRU U1JE

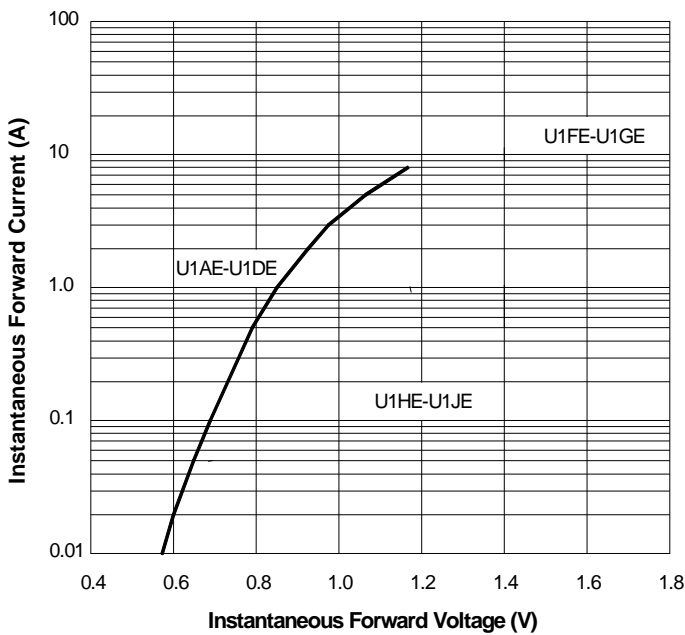
Thermal Characteristics (T_a=25 Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	U1AE	U1BE	U1CE	U1DE	U1FE	U1GE	U1HE	U1JE
Typical Thermal resistance	R J-A ⁽¹⁾	/W	65							
	R J-L ⁽¹⁾		25							
	R J-C ⁽¹⁾		20							

Note:
 (1) Thermal resistance between junction and ambient and between junction and lead mounted on P.C.B with 3mm*3mm copper pad areas.

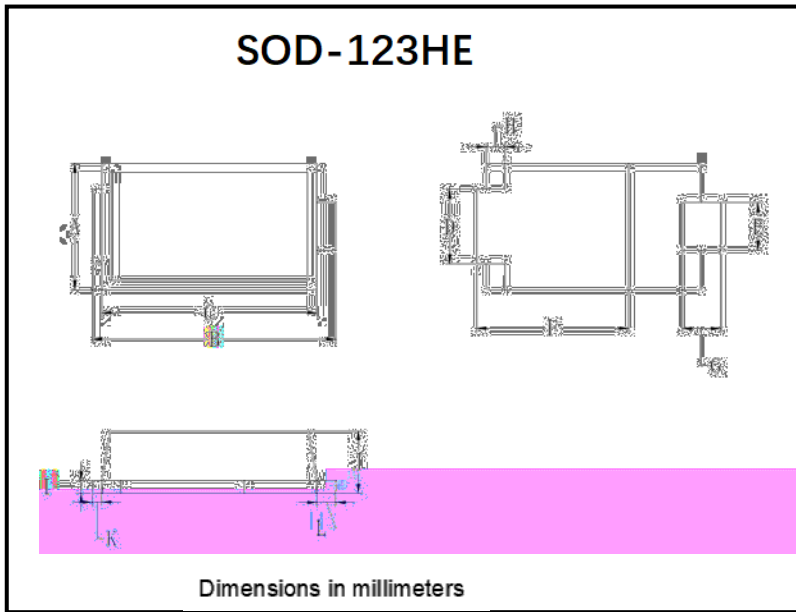
Characteristics (Typical)

FIG.3: Typical Forward Characteristics



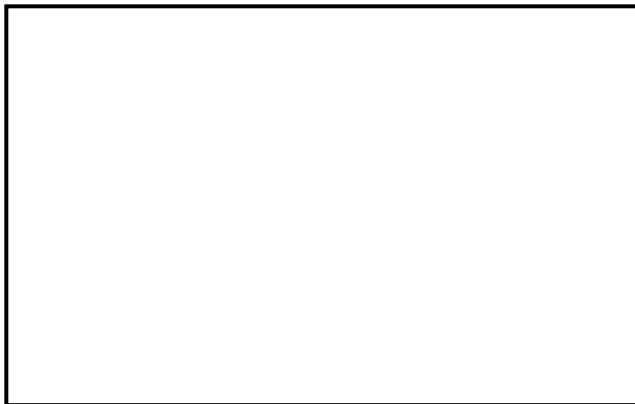


Outline Dimensions



SOD-123HE		
Dim	Min	Max
A	1.88	2.18
B	3.70	4.00
C	3.19	3.61
D	1.05	1.35
E	0.61	0.91
F	2.20	2.90
G	0.40	0.80
H	0.30 TYP	
I	0.10	0.30
J	0.85	1.15
K	0.00	0.30
L	0.15	0.45

Suggested pad layout



SOD-123HE	
Dim	Millimeters
P1	0.64
Q1	2.54
Q2	2.67
Q3	1.27
Q4	0.76



Disclaimer

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The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor i ach ä u ipm