SEMICONDUCTOR

SS54SLT

SUPER LOW VF SCHOTTKY BARRIER RECTIFIER

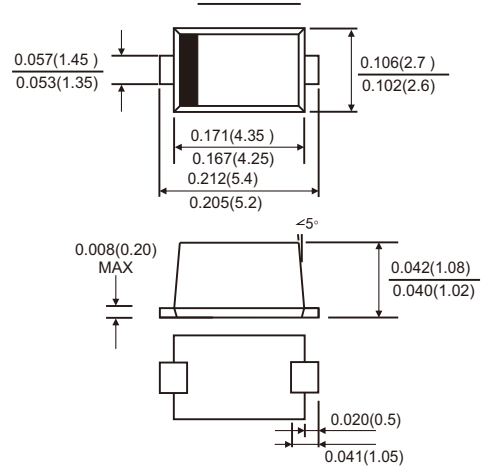
Reverse Voltage - 40 Volts
Forward Current - 5.0Amperes

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,ultra low forward voltage drop
- High surge capability
- High temperature soldering guaranteed:260℃/10 seconds at terminals
- Component in accordance to RoHS 2011/65/EU

Pb
RoHS
COMPLIANT

SMAFL



Dimensions in inches and (millimeters)

MECHANICAL DATA

- Case: SMAFL molded plastic body
- Terminals: Solder Plated, solderable per MIL-STD-750,method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.0012ounce, 0.0328 gram

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	5.0A
V_{RRM}	40V
I_{FSM}	120A
V_F at I_F=5. 0A,25℃	0. 45V
T_{JMAX}	150℃

TYPICAL APPLICATIONS

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

MAXIMUM RATINGS

(Ratings at 25℃ ambient temperature unless otherwise specified)

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	40	V
Maximum average forward rectified current	$I_{F(AV)}$	5.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	I_{FSM}	120	A
Operating junction temperature range	T_J	-55 to+150	℃
Storage temperature range	T_{stg}	-55 to+150	℃

RATINGS AND CHARACTERISTIC OF SS54SLT

ELECTRICAL CHARACTERISTCS（TA=25℃ Unless otherwise noted）

Parameter	Test Conditions		Symbol	TYP.	MAX.	Unit
Instaneous forward voltage	I_F=5.0A	T_A=25℃	V_F 1)	0.43	0.45	V
		T_A=100℃		0.39	–	
		T_A=125℃		0.34	–	
	I_F=3.0A	T_A=25℃		0.37	–	
		T_A=100℃		0.33	–	
		T_A=125℃		0.29	–	
Reverse current	V_R=40V	T_A=25℃	I_R 2)	80	200	μA
		T_A=100℃		6	15	mA
		T_A=125℃		20	50	
Typical junction capacitance	4V, 1MHz		CJ	310		pF

Notes: 1.Pulse test: 300 μs pulse width,1% duty cycle

2.Pulse test: pulse width≤40ms

THERMAL CHARACTERISTCS（T_A=25℃ Unless otherwise noted）

Parameter	Symbol	SMAFL	Unit
Typical thermal resistance	$R_{\theta JA}$ 3) 4)	115	℃/W
	$R_{\theta JL}$ 3)	28	

3.Free air,mounted on recommended PCB ,2 oz.pad area

4.The heat generated must be less than thermal conductivity from junction to ambient:$dP_D/dt_J < 1/R_{\theta JA}$

AVAILABALE PACK INFORMATION

Product code	Pack	Reel Size (mm)	Quantity (pcs/reel)	Box Size L×W×H (mm)	Quantity (reel/box)	Carton Size L×W×H (mm)	Quantity (box/carton)
SS54SLT-SMAFL	T/R	Φ280	5000	285×285×40	2	305×305×440	10
SS54SLT-SMAFL	T/R	Φ180	3000	185×185×80	4	305×305×440	5

RATINGS AND CHARACTERISTIC OF SS54SLT

FIG.1-FORWARD CURRENT DERATING CURVE

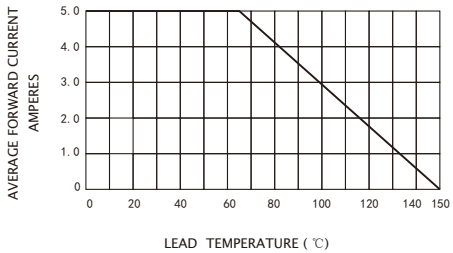


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

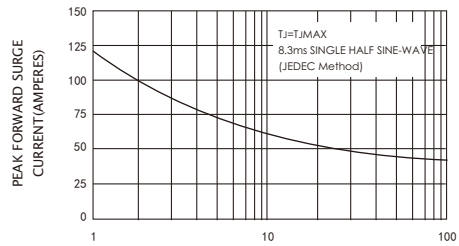


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

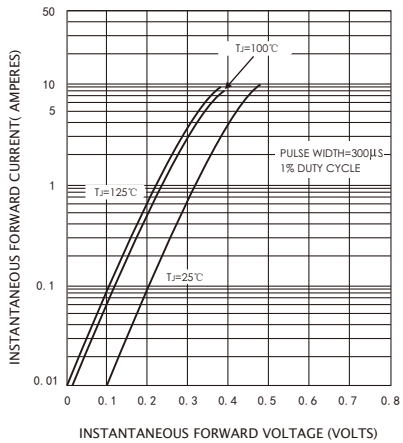


FIG.4-TYPICAL REVERSE CHARACTERISTICS

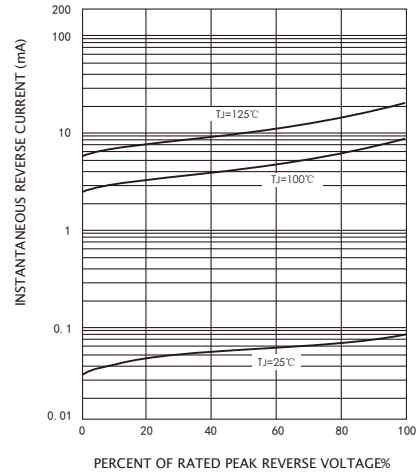


FIG.5-TYPICAL JUNCTION CAPACITANCE