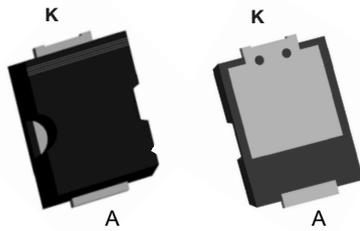


Trench MOS Barrier Schottky Rectifier

TSP5L300P6

SMP6



Cathode K  Anode A

Features

- Advanced trench technology
- Low forward voltage drop
- Low power losses
- High efficiency operation
- Lead Free Finish, RoHS Compliant

Applications

- DC/DC Converters
- AC/DC Adaptors
- Switching Power Supplies
- Freewheeling Diodes

Maximum ratings and electrical characteristics (T_J = 25°C unless otherwise noted)

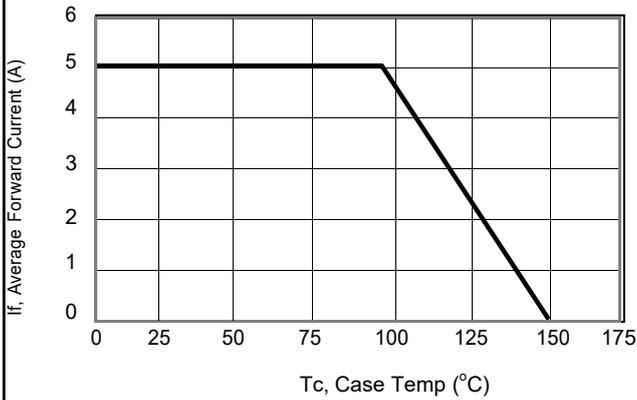
Parameter		Symbol	Limit		Unit	
Maximum repetitive peak reverse voltage		VRRM	300		V	
Maximum average forward rectified current		IF(AV)	5.0		A	
Peak forward surge current 8.3 ms single half sine- wave superimposed on rated load per diode		IFSM	100		A	
Operating junction and storage temperature range		TJ, TSTG	-50 to +150		°C	
Typical thermal resistance per diode(Mounted on FR-4 PCB)		RθJC	25		°C/W	
Instantaneous forward voltage per diode		VF(1)	TYP.	MAX.	V	
	IF=1A		TJ=25°C	0.71		0.76
	IF=1A		TJ=125°C	0.66		-
	IF=5A		TJ=25°C	0.84		0.90
	IF=5A		TJ=125°C	0.78		-
Instantaneous reverse current per diode at rated reverse voltage	TJ=25°C	IR(2)	1	20	uA	
	TJ=125°C		2	-	mA	

Notes:

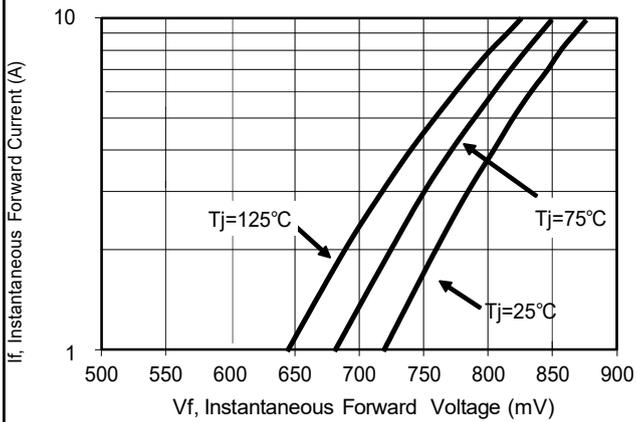
(1) Pulse test: 300 μs pulse width, 1 % duty cycle

(2) Pulse test: Pulse width ≦ 40 ms

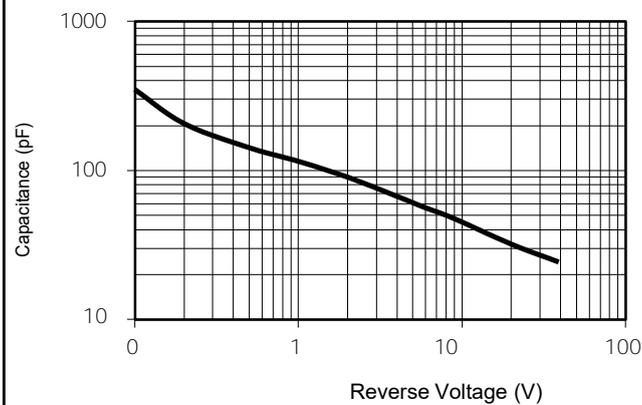
RATINGS AND CHARACTERISTICS CURVES (TA = 25 °C unless otherwise noted)



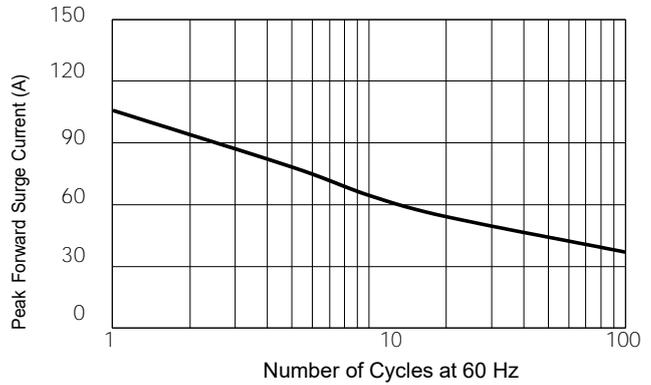
Current Derating, Case



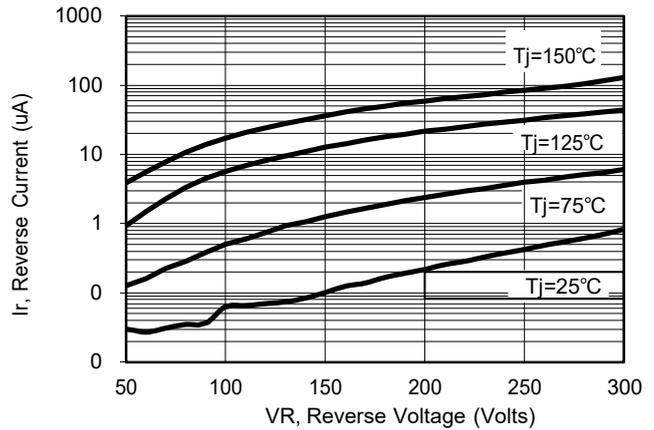
Typical Forward Voltage



Typical Junction Capacitance



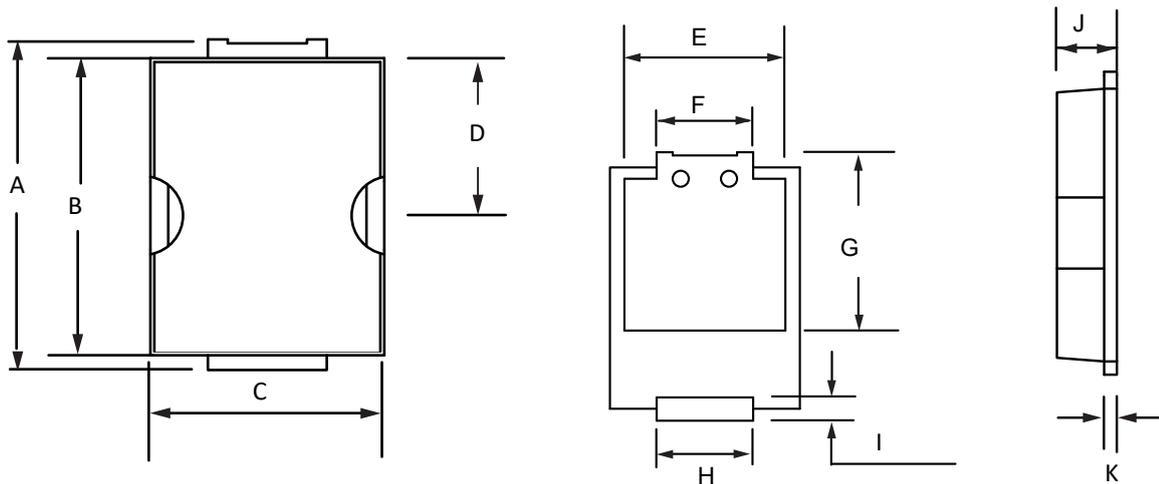
Maximum Repetitive Surge Current



Typical Reverse Current

PACKAGE OUTLINE DIMENSIONS

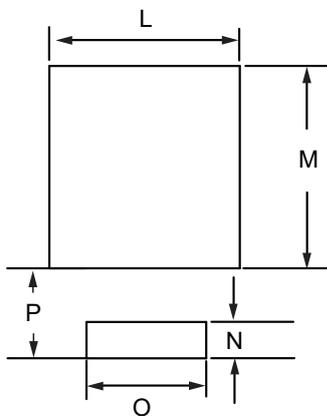
SMP6



SMP6 mechanical data

UNIT		A	B	C	D	E	F	G	H	I	J	K
mm	max	8.6	7.75	6.1	4.2	5.2	3.2	5.68	3.2	0.93	1.85	0.45
	min	8.0	7.35	5.7	3.8	4.8	2.8	5.28	2.8	0.53	1.45	0.25
mil	max	338.5	305.1	240.1	165.3	204.7	126.0	223.6	126.0	36.6	72.8	17.7
	min	314.9	289.3	224.4	149.6	188.9	110.2	207.8	110.2	20.8	57.1	9.8

SMP6 Suggested Pad Layout



UNIT		L	M	N	O	P
mm	min	5.40	5.78	1.0	3.4	1.8
mil	min	212.6	227.5	39.3	133.8	70.8