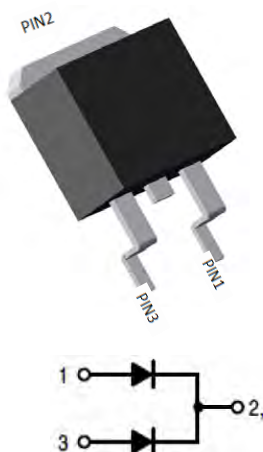


Trench MOS Barrier Schottky Rectifier

TSR40L120CTB

TO-263



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	120		V
Maximum average forward rectified current	device	IF(AV)	40		A	
	per diode		20			
Peak forward surge current 8.3 ms single half sine- wave superimposed on rated load per diode			IFSM	280		A
Operating junction and storage temperature range			TJ, TSTG	-50 to +150		°C
Typical thermal resistance per leg		TO-263	RθJC	2		°C/W
Instantaneous forward voltage per diode			VF(1)	TYP.	MAX.	V
	IF=5A	TJ=25°C		0.55	0.63	
	IF=5A	TJ=125°C		0.48	-	
	IF=20A	TJ=25°C		0.76	0.85	
	IF=20A	TJ=125°C		0.68	-	
Instantaneous reverse current per diode at rated reverse voltage		TJ=25°C	IR(2)	10	90	uA
		TJ=125°C		10	-	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)

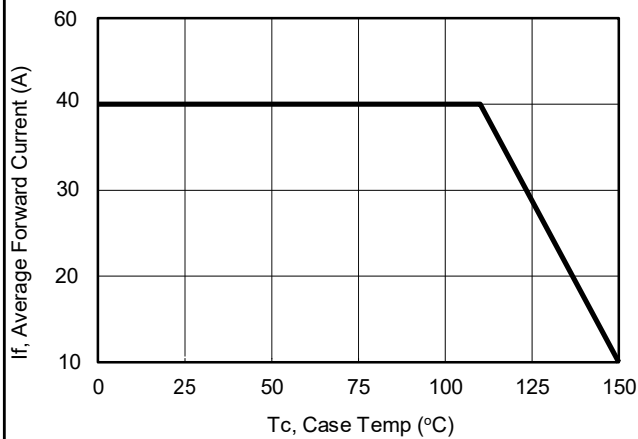


Figure 1: Current Derating, Case

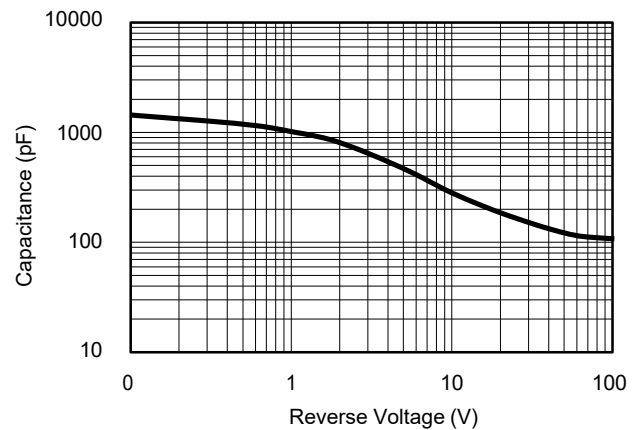
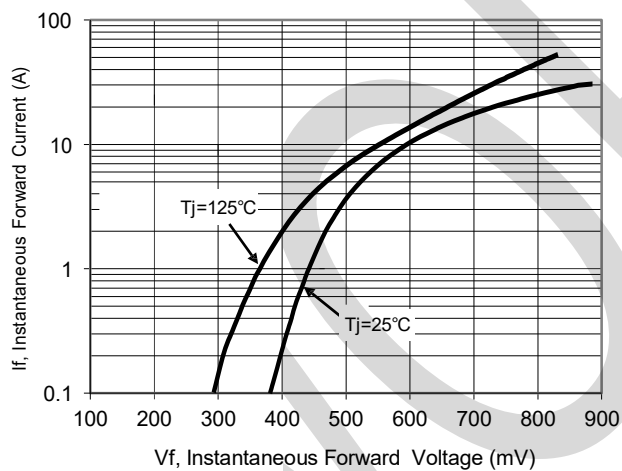
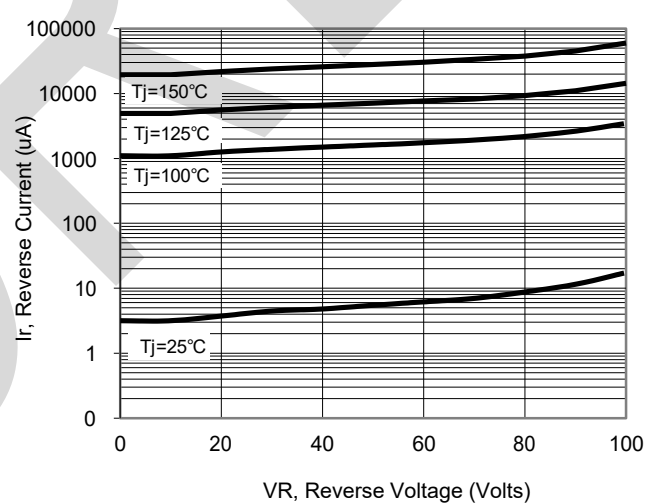


Figure 2: Typical Junction Capacitance



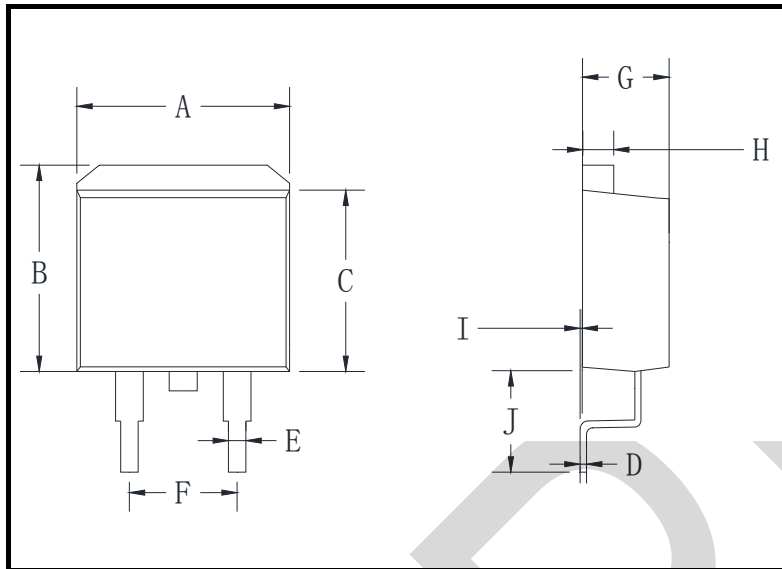
Typical Forward Voltage



Typical Reverse Current

PACKAGE OUTLINE DIMENSIONS

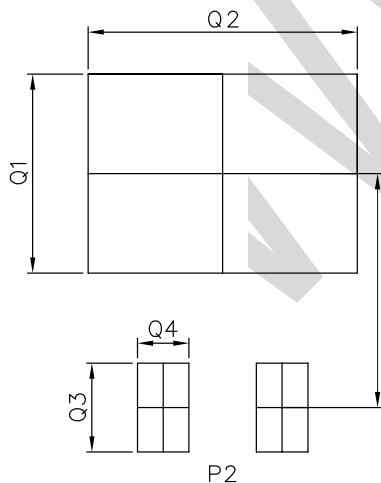
TO-263



TO-263 mechanical data

UNIT		A	B	C	D	E	F	G	H	I	J
mm	max	11.5	10.5	9.0	0.64	0.94	5.6	5.1	1.4	0.6	6.1
	min	9.5	9.7	8.4	0.28	0.68	4.5	4.0	1.1	0	4.9
mil	max	452.7	413.3	354.3	25.2	37.0	220.5	200.8	55.1	23.6	240.1
	min	374.0	381.8	330.7	11.0	26.7	177.2	157.5	43.3	0	192.9

TO-263 Suggested Pad Layout



UNIT		P1	P2	Q1	Q2	Q3	Q4
mm	min	10.0	4.00	8.5	11.5	3.8	2.1
mil	min	393.3	157.5	39.37	334.6	149.6	82.7