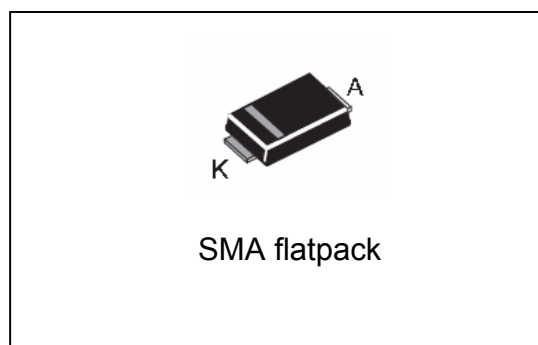


Ultra Low V_F Schottky Barrier Rectifier**Main product characteristics**

I_O	1A
V_{RRM}	15V
$T_{j(MAX)}$	125°C
$V_{F(MAX)}$	0.22V

**Description and applications**

Single schottky diode assembled in a low profile flat SMA package. This product is suitable for use in switching and regulating power supplies and also charge pump circuits.

Absolute maximum ratings⁽¹⁾

Symbol	Parameter	Value	Unit
V_{RRM} V_{RWM} V_R	Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	15	V
$V_{R(RMS)}$	RMS Reverse Voltage	10.5	V
I_O	Average rectified forward output current ($T_C = 135^\circ\text{C}$)	1.0	A
I_{FSM}	Non repetitive peak forward surge current (8.3ms single half sine wave)	50	A
dV/dt	Voltage rate of change (at max V_R)	10000	V/ μs
T_{STG}	Storage temperature	-55 to +150	°C
T_J	Junction temperature	-55 to +125	°C

⁽¹⁾ All ratings at 25°C unless specified otherwise

Characteristics

Static Electrical Characteristics

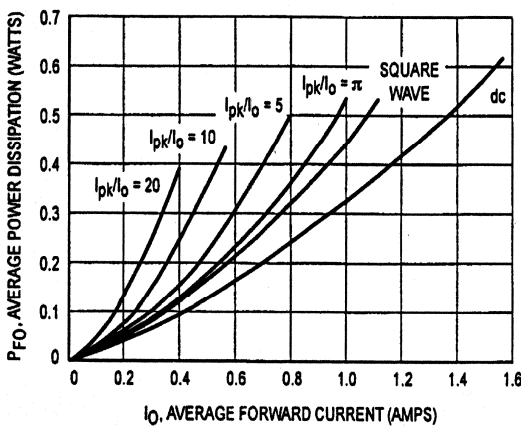
Symbol	Parameter	Test Conditions		Typ	max	Units
$V_F^{(2)}$	Maximum forward voltage	$T_J = 75^\circ\text{C}$	$I_F = 1.0\text{ A}$		0.22	V
$I_R^{(2)}$	Maximum instantaneous reverse current	$T_J = 25^\circ\text{C}$	$V_R = 15\text{V}$		10	mA
C_T	Junction capacitance	$V_R = 5\text{V}, f = 1\text{MHz}$		150		pF

⁽²⁾ Measured with a test pulse of 380 μs to minimize self-heating effect

Thermal Characteristics

Symbol	Parameter	Value	Unit
$R_{\theta JC}$	Junction to case (bottom)	15	$^\circ\text{C/W}$
$R_{\theta JA}$	Junction to ambient ⁽³⁾	88	$^\circ\text{C/W}$

⁽³⁾ Mounted on FR-4 PC board using 1oz copper with recommended minimum foot print



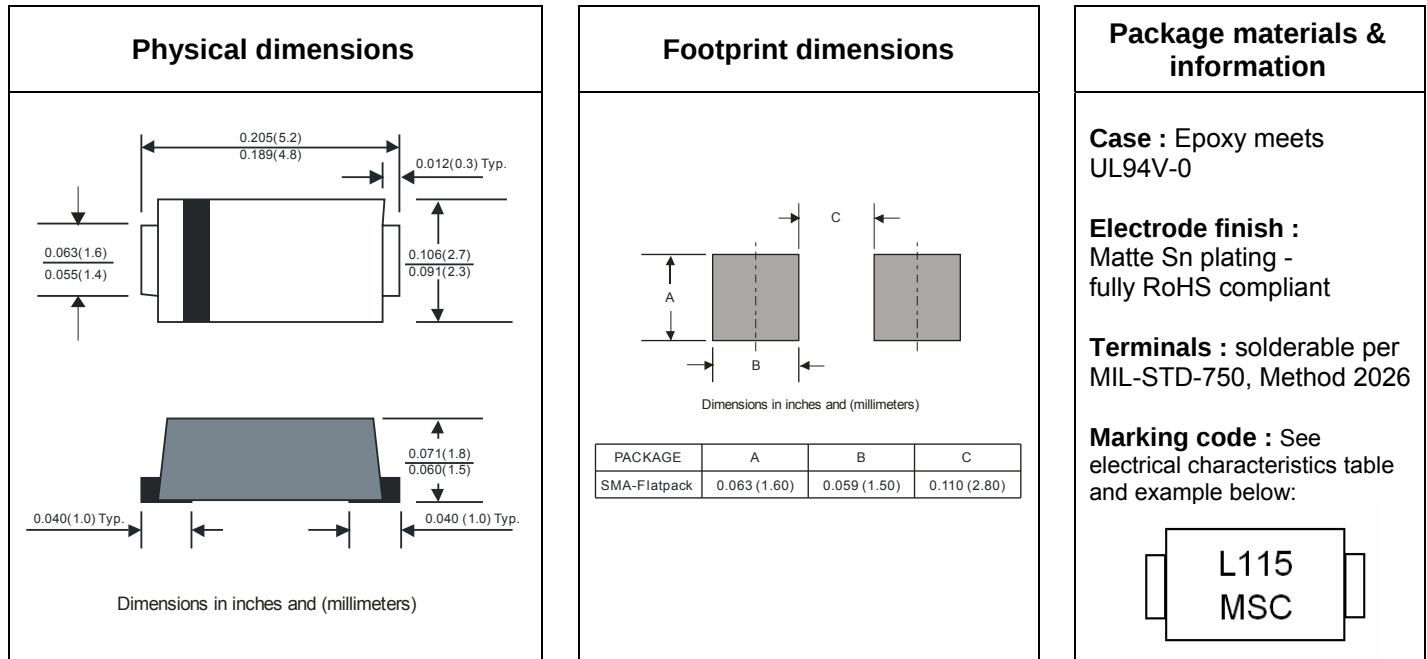
Reverse power dissipation and the possibility of thermal runaway must be considered when operating this device under any reverse voltage conditions. Calculations of T_J therefore must include forward and reverse power effects. The allowable operating T_J may be calculated from the equation:

$T_J = T_{J\max} = r(t)(P_f + P_r)$ where
 $r(t)$ = thermal impedance under given conditions.
 P_f = forward power dissipation, and
 P_r = reverse power dissipation

This graph displays the de-rated allowable T_J due to reverse bias under DC conditions only and is calculated as $T_J = T_{J\max} - r(t) P_r$, Where $r(t) = R_{thja}$. For other power applications further calculations must be performed.

Ultra Low V_F Schottky Barrier Rectifier

Mechanical Characteristics



POLARITY : The color band denotes the cathode.

Ordering information

Product order code	Package	Weight	Base qty	Delivery mode
LSM115Fe3/TR13	DO-214AC (SMA - flatpack)	0.0017oz. 0.05g	7500	Tape and reel (13 inch)

Commercial Business Unit
Microsemi Corporation

Microsemi Commercial Offshore de Macau Limitada
Avenida Doutor Mario Soares
Bank of China Building, 18/F, Unit D
Macau SAR

Please refer to www.microsemi.com for the terms and conditions of purchase

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