



THE DATASHEET OF USC1106



January 7, 1998

TEL:805-498-2111 FAX:805-498-3804 WEB:http://www.semtech.com

AXIAL LEADED HERMETICALLY SEALED SUPERFAST RECTIFIER DIODE

QUICK REFERENCE DATA

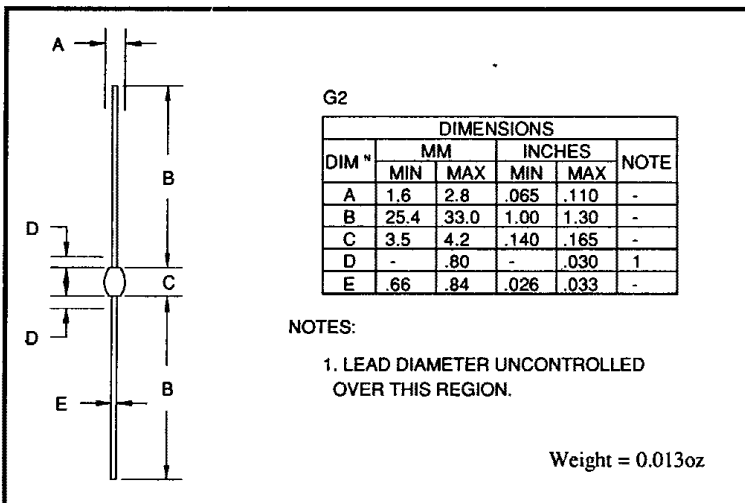
- Very low reverse recovery time
- Hermetically sealed with Metoxilite fused metal oxide
- Low thermal impedance
- Low switching losses
- Soft, non-snap off, recovery characteristics

- $V_R = 200 - 400V$
- $I_F = 2.1A$
- $t_{rr} = 50nS$
- $I_R = 10\mu A$

ABSOLUTE MAXIMUM RATINGS (@ 25°C unless otherwise specified)

	Symbol	USC1104	USC1105	USC1106	Unit
Working reverse voltage	V_{RWM}	200	300	400	V
Repetitive reverse voltage	V_{RRM}	200	300	400	V
Average forward current (@ 55°C, lead length = 0.375")	$I_{F(AV)}$	← 2.1 →			A
Repetitive surge current (@ 55°C in free air, lead length 0.375")	I_{FRM}	← 9.0 →			A
Non-repetitive surge current ($t_p = 8.3mS$, @ V_R & T_{jmax})	I_{FSM}	← 20 →			A
Storage temperature range	T_{STG}	← -55 to +150 →			°C
Operating temperature range	T_{OP}	← -55 to +150 →			°C

MECHANICAL



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ELECTRICAL CHARACTERISTICS (@ 25°C unless otherwise specified)



	Symbol	USC1104	USC1105	USC1106	Unit
Average forward current max. (pcb mounted; T _A = 55°C) for sine wave	I _{F(AV)}	←	1.0	→	A
	I _{F(AV)}	←	1.1	→	A
Average forward current max. (T _L = 55°C; L = 3/8") for sine wave	I _{F(AV)}	←	2.0	→	A
	I _{F(AV)}	←	2.1	→	A
I ² t for fusing (t = 8.3mS) max.	I ² t	←	1.7	→	A ² S
Forward voltage drop max. @ I _F = 1.0A, T _j = 25°C	V _F	←	1.25	→	V
Reverse current max. @ V _{RWM} , T _j = 25°C	I _R	←	10	→	μA
	I _R	←	200	→	μA
Reverse recovery time max. 0.5A I _F to 1.0A I _R . Recovers to 0.25A I _{RR} .	t _{rr}	←	50	→	nS
Junction capacitance typ. @ V _R = 5V, f = 1MHz	C _j	←	25	→	pF

THERMAL CHARACTERISTICS

	Symbol	USC1104	USC1105	USC1106	Unit
Thermal resistance - junction to lead Lead length = 0.0"	R _{θJL}	←	7	→	°C/W
	R _{θJL}	←	38	→	°C/W
Thermal resistance - junction to amb. on 0.06" thick pcb. 1 oz. copper.	R _{θJA}	←	95	→	°C/W

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