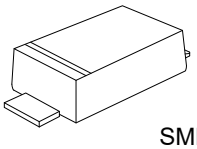
S3ABF THRU S3MBF

TVS DIODE

GENERAL PURPOSE SILICON RECTIFIERS



SMBF

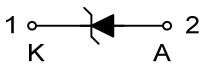
■ DESCRIPTION

The UTC **S3ABF THRU S3MBF** is a surface mount transient voltage supperssors, it uses UTC's advanced technology to provide customers with low leakage and very fast response time, etc.

■ FEATURES

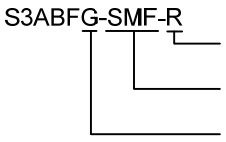
* For surface mounted applications
* Low profile package
* Glass Passivated Chip Junction
* Easy to pick and place

■ SYMBOL



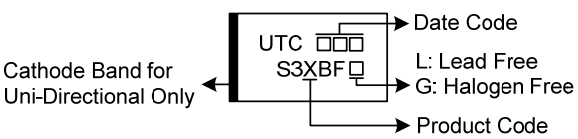
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
S3ABFL-SMF-R	S3ABFG-SMF-R	SMBF	K	A	Tape Reel
S3BBFL-SMF-R	S3BBFG-SMF-R	SMBF	K	A	Tape Reel
S3DBFL-SMF-R	S3DBFG-SMF-R	SMBF	K	A	Tape Reel
S3GBFL-SMF-R	S3GBFG-SMF-R	SMBF	K	A	Tape Reel
S3JBFL-SMF-R	S3JBFG-SMF-R	SMBF	K	A	Tape Reel
S3KBFL-SMF-R	S3KBFG-SMF-R	SMBF	K	A	Tape Reel
S3MBFL-SMF-R	S3MBFG-SMF-R	SMBF	K	A	Tape Reel



(1) R: Tape Reel
(2) SMF: SMBF
(3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C, unless otherwise specified)

Single phase, half wave, 60Hz, resistive or inductive load. For capacitance load, derate current by 20%.

PARAMETER	SYMBOL	RATINGS							UNIT
		S3ABF	S3BBF	S3DBF	S3GBF	S3JBF	S3KBF	S3MBF	
Peak Repetitive Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Working Peak Reverse Voltage	V_{RWM}	50	100	200	400	600	800	1000	V
DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Average Rectified Output Current (Fig.1)	I_O	3							A
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	80							A
Peak Forward Surge Current, 1ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	160							A
Operating Junction Temperature Range	T_J	-55 ~ +150							°C
Storage Temperature Range	T_{STG}	-55 ~ +150							°C

Notes: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.
3. P.C.B. mounted with 1.5" × 1.5" (3.81 × 3.81 cm) copper pad areas.

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Typical Thermal Resistance (Note)	θ_{JA}	42	°C/W
	θ_{JA}	10	°C/W
	θ_{JL}	15	°C/W

Note: P.C.B. mounted with 1.5" × 1.5" (3.81 × 3.81 cm) copper pad areas.

■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Instantaneous Forward Voltage	V_F	I_F=3A			1.1	V
DC Reverse Current at Rated DC Blocking Voltage	I_R	T_J=25°C			5	μA
		T_J=125°C			150	μA
Reverse Recovery Time	t_{RR}	I_F=1A, d_{if}=/d_t=100A/μs		3		μs
I^2t Rating for Fusing (3ms ≤ t 8.3 ≤ ms)	I^2t			26.5		A^2S
Typical Junction Capacitance (Note)	C_J			28		pF

Note: P.C.B. mounted with 1.5" × 1.5" (3.81 × 3.81 cm) copper pad areas.

■ TYPICAL CHARACTERISTICS

Fig.1 Forward Current Derating Curve

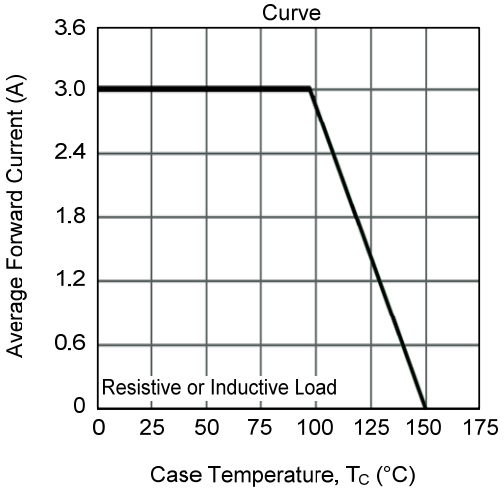


Fig.2 Typical Instaneous Reverse Characteristics

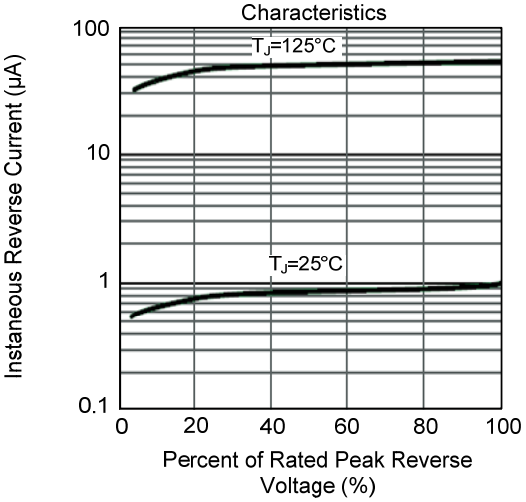


Fig.3 Typical Forward Characteristic

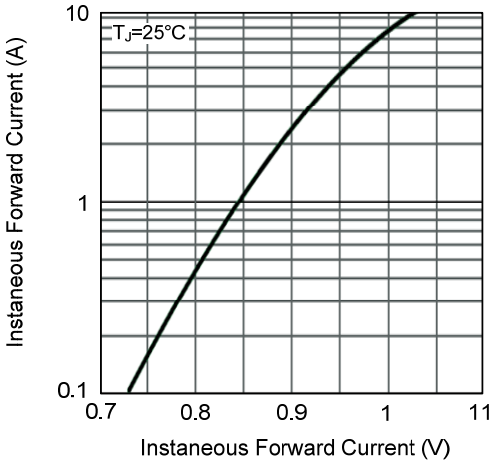


Fig.4 Typical Junction Capacitance

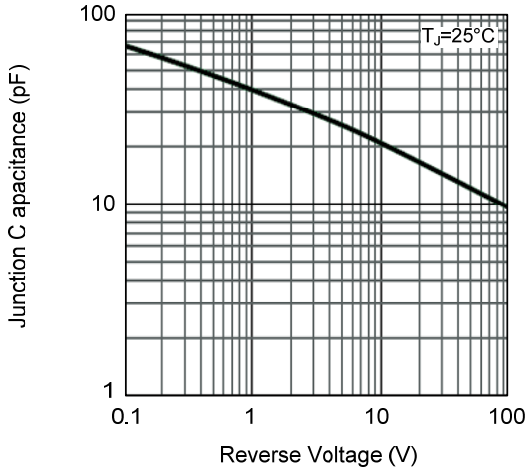


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current