



FS1A THRU FS1M

1.0 AMP FAST RECOVERY SILICON RECTIFIER



FEATURES

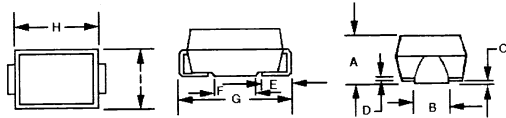
- * For surface mount applications
- * Extremely low thermal resistance
- * Easy pick and place
- * High temp soldering: 250°C for 10 seconds at terminals
- * Superfast recovery times for high efficiency

MECHANICAL DATA

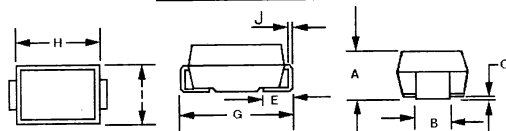
- * Case: Molded plastic
- * Terminals: Solder plated
- * Polarity: Indicated by cathode band
- * Standard packaging: 12mm tape (ELA STD RS - 481)
- * Weight: 0.091 gram (SMA/DO-214AC *)
0.064 gram ((SMA/DO-214AC)

VOLTAGE RANGE
50 to 1000 Volts

SMA/DO-214AC *



SMA/DO-214AC



DIMENSIONS

	SMA/DO - 214AC *		SMA/DO - 214AC	
	inches	mm	inches	mm
A	.078 to .115(L)	1.98 to 2.29(L)	.078 to .090	1.98 to 2.29
A	.110 to .117(H)	2.80 to 2.98(H)		
B	.067 to .088	1.7 to 2.24	0.052 to .058	1.32 to 1.47
C	.008MAX	0.20MAX	.008MAX	.20MAX
D	.02MAX	.51MAX		
E	.030 to .060	.76 to 1.52	.030 to .050	.76 to 1.27
F	.067 to .094	1.65 to 2.39		
G	.204 to .220	5.21 to 5.59	.194 to .208	4.93 to 5.28
H	.160 to .179	4.06 to 4.55	.157 to .177	3.99 to 4.50
I	.101 to .112	2.56 to 2.85	.100 to .110	2.54 to 2.79
J			.006 to .012	.152 to .305

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Maximum thermal resistance; 15°C/W Junction to lead
Rating at 25°C ambient temperature unless otherwise specified.

TYPE NUMBER	SYMBOLS	FS1A	FS1B	FS1D	FS1G	FS1J	FS1K	FS1M	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current $T_L = 75^\circ\text{C}$	$I_{F(AV)}$	1.0							A
Peak Forward Surge Current, (8.3 ms half sine)	I_{FSM}	30							A
Maximum Instantaneous Forward Voltage @ 1.0A (Note 1)	V_F	1.3							V
Maximum D. C Reverse Current @ $T_A = 25^\circ\text{C}$ at Rated D. C. Blocking Voltage @ $T_A = 125^\circ\text{C}$	I_R	5 200							μA
Maximum Reverse Recovery time (Note 2)	T_{rr}	150				250	500		nS
Typical Junction Capacitance (Note 3)	C_J	10							pF
Operating and Storage Temperature Range	T_J, T_{STG}	- 50 to + 150							$^\circ\text{C}$

- NOTES: 1. Pulse test: Pulse width 300 μsec , 1% duty cycle.
2. Reverse Recovery Test Conditions: $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{RR} = 0.25\text{A}$.
3. Measured at 1 MHz and applied $V_R = 4.0$ volts D. C.

RATINGS AND CHARACTERISTIC CURVES (FS1A THRU FS1M)

Figure 1 – Typical Forward Characteristics

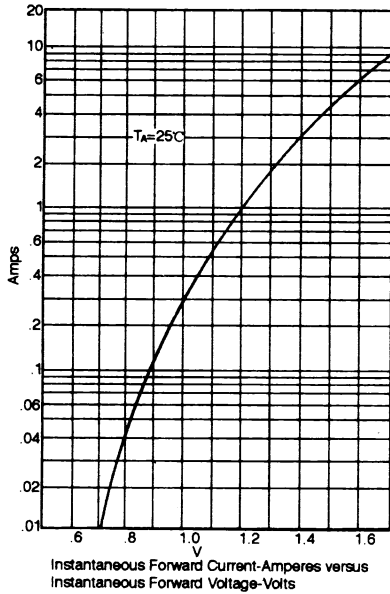


Figure 2 – Forward Current Derating Curve

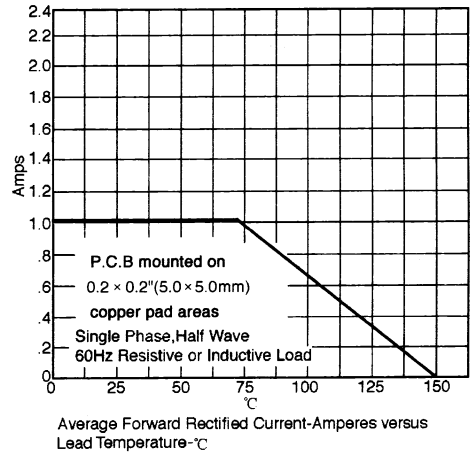
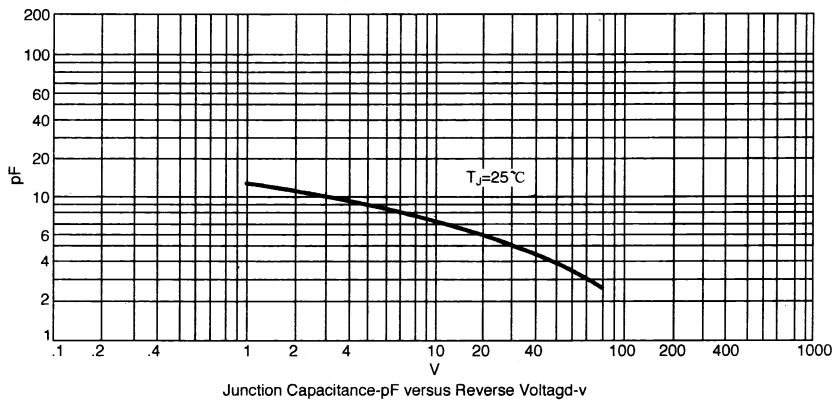


Figure 3 – Typical Junction Capacitance



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Figure 1 – Typical Forward Characteristics

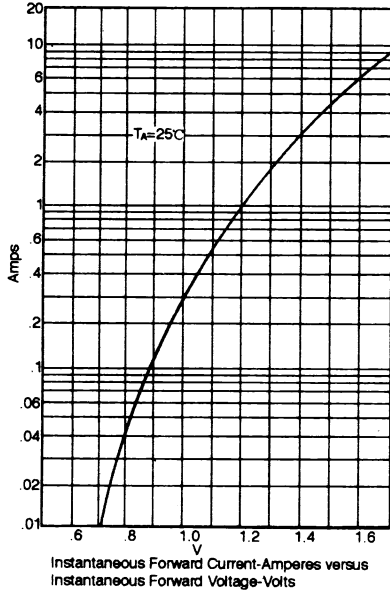


Figure 2 – Forward Current Derating Curve

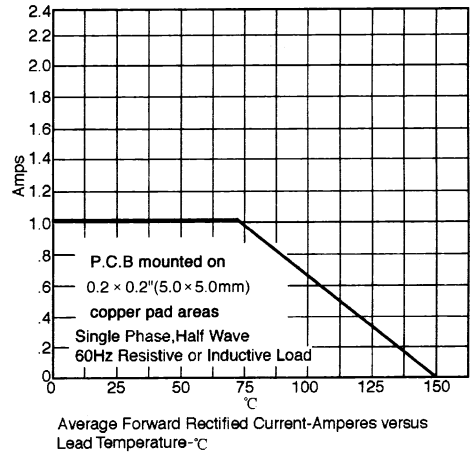
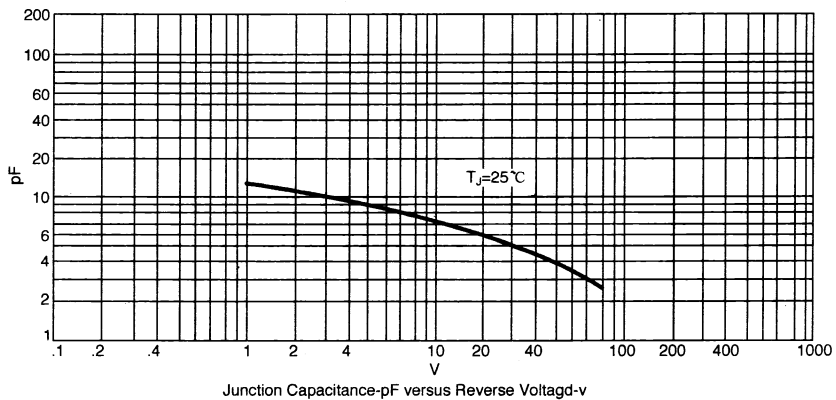


Figure 3 – Typical Junction Capacitance



RATINGS AND CHARACTERISTIC CURVES (FS1A THRU FS1M)

Figure 4 – Maximum Non-repetitive forward Surge Current

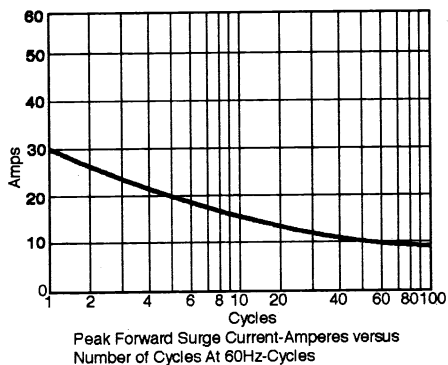
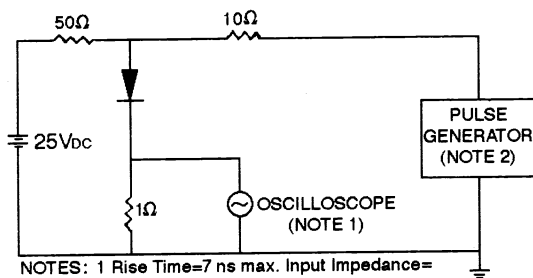
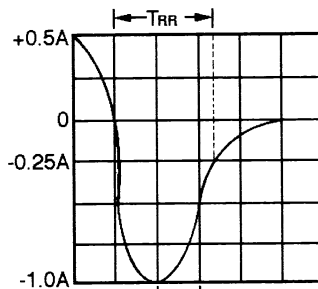


Figure 5 – Reverse Recovery Time Characteristic And Test Circuit Diagram

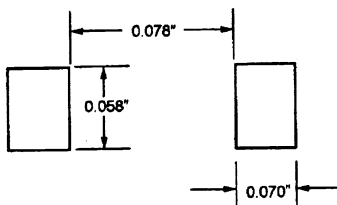


- NOTES: 1 Rise Time=7 ns max. Input Impedance= 1 megohm 22pF
 2 Rise Time=10ns max. Source Impedance= 50 ohms
 3 Resistors are non-inductive



SET TIME BASE FOR 50/200ns/cm

SUGGESTED SOLDER PAD LAYOUT





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