

Surface Mount Rectifiers

US1A--US1M

FEATURES

- For surface mount applications
- Low profile package
- Easy pick and place
- Ultrafast recovery times for high efficiency
- Low forward voltage, low power loss
- Built-in strain relief, ideal for automated placement
- High temperature soldering: 260°C/10 seconds on terminals
- Plastic package has underwriters laboratories flammability classification 94V-0



MECHANICAL DATA

- Case: JEDEC DO-214AC, molded plastic body over passivated chip
- Terminals: Solder Plated, solderable per MIL-STD-750, Method 2026
- Weight: 0.002 ounces, 0.064 gram

Maximum Ratings (@T_A = 25°C unless otherwise specified)

Characteristic	Symbol	US1A	US1B	US1D	US1G	US1J	US1K	US1M	UNITS
Maximum recurrent peak reverse voltage	V _{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V _{RWS}	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 at T _L =110°C	I _{F(AV)}	1.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load(JEDEC Method)	I _{FSM}	30							A

Thermal Characteristics

Characteristic	Symbol	US1A	US1B	US1D	US1G	US1J	US1K	US1M	UNITS
Typical junction capacitance at 4.0V, 1MHz	C _J	20				15			pF
Maximum thermal resistance (NOTE1)	R _{θJA} R _{θJL}	55				20			°C/W
Operating temperature range	T _J	-55----- +150							°C
Storage temperature range	T _{STG}	-55----- +150							°C

Electrical Characteristics (@T_A = 25°C unless otherwise specified)

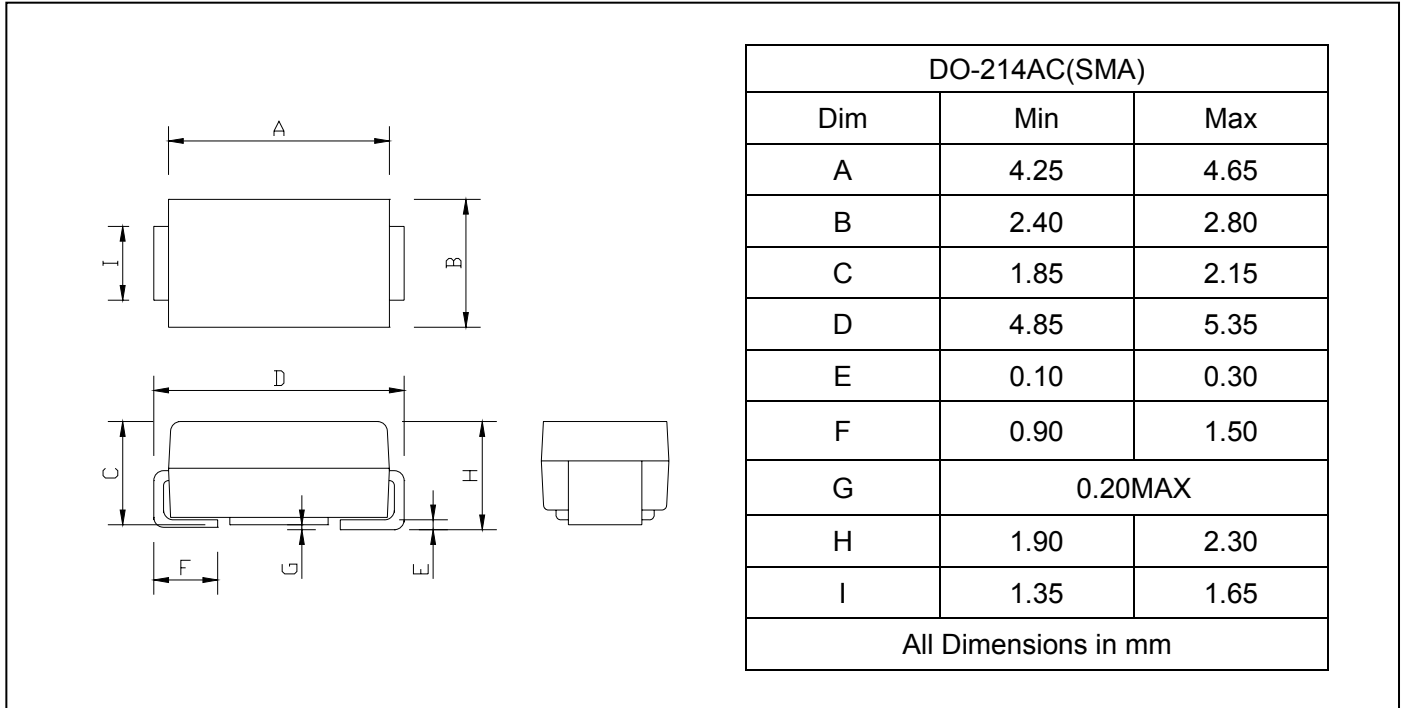
Characteristic	Symbol	US1A	US1B	US1D	US1G	US1J	US1K	US1M	UNITS
Maximum instantaneous forward voltage at 1.0A	V _F	1.0			1.25	1.7			V
Maximum DC reverse current @T _A =25°C at rated DC blocking voltage @T _A =125°C	I _R	5.0				100.0			μA
Maximum reverse recovery time at I _F =0.5A I _R =1.0A I _{rr} =0.25A	t _{rr}	50				75			ns

NOTE: 1.P.C.B.mounted on 0.2X0.2"(5.0X5.0mm) copper pad area

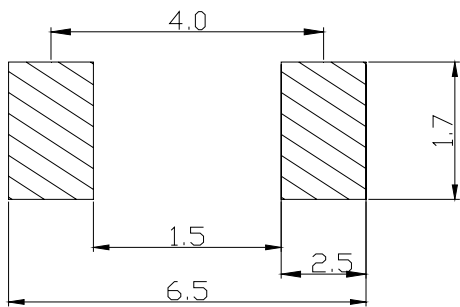
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PACKAGE OUTLINE DIMENSIONS



SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
US1A--US1M	DO-214AC(SMA)	5000/Tape&Reel

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FIG.1 – FORWARD CURRENT DERATING CURVE

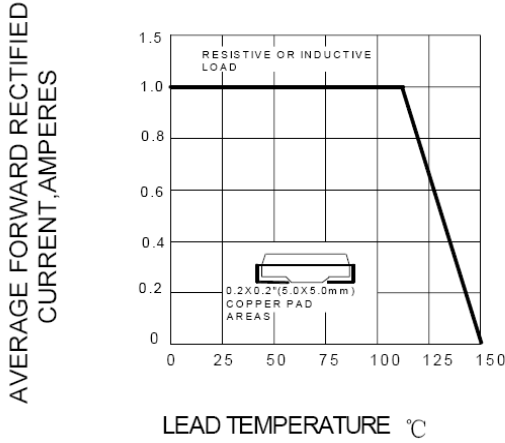


FIG.2 – MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

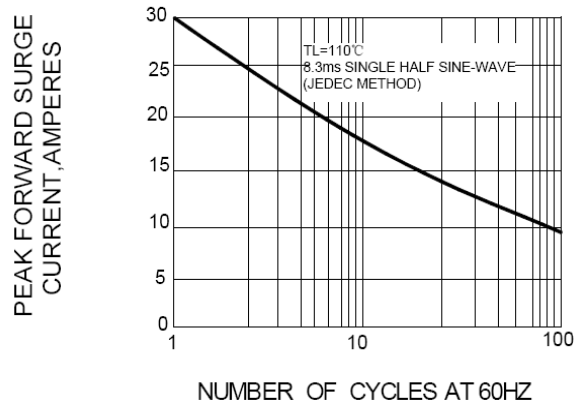


FIG.3 – TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

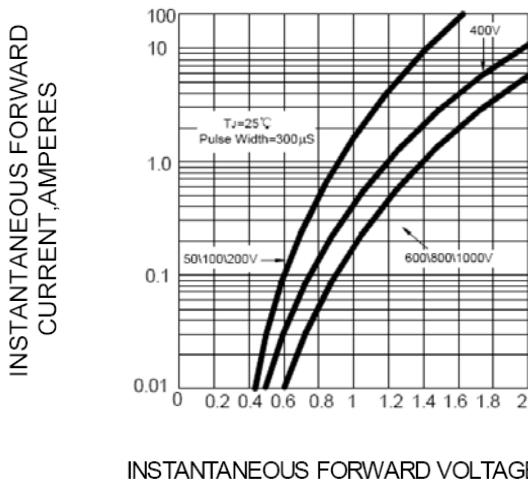


FIG.4 – TYPICAL REVERSE CHARACTERISTICS

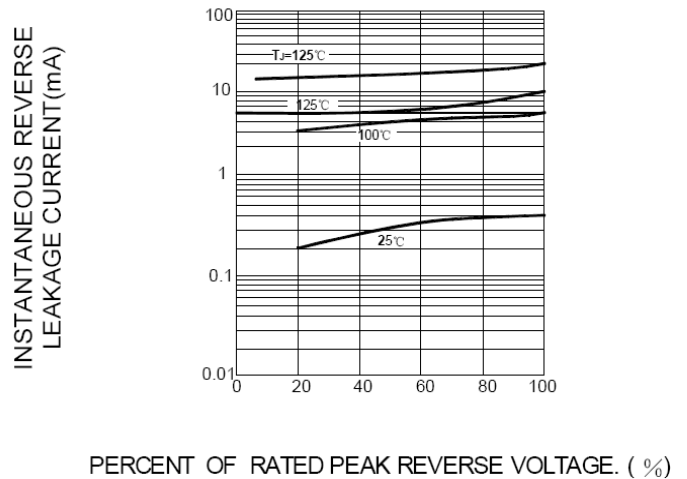


FIG.5 – TYPICAL JUNCTION CAPACITANCE

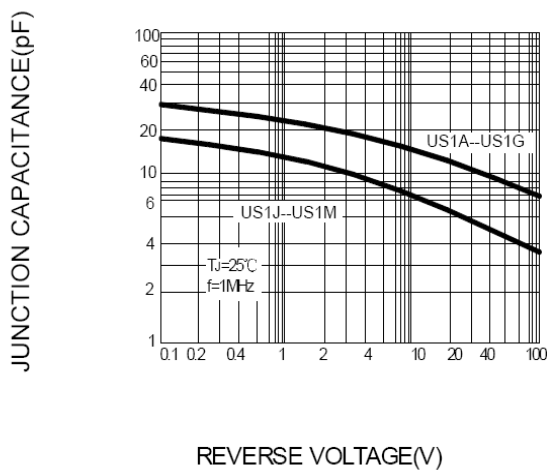


FIG.6 – TYPICAL TRANSIENT THERMAL IMPEDANCE

