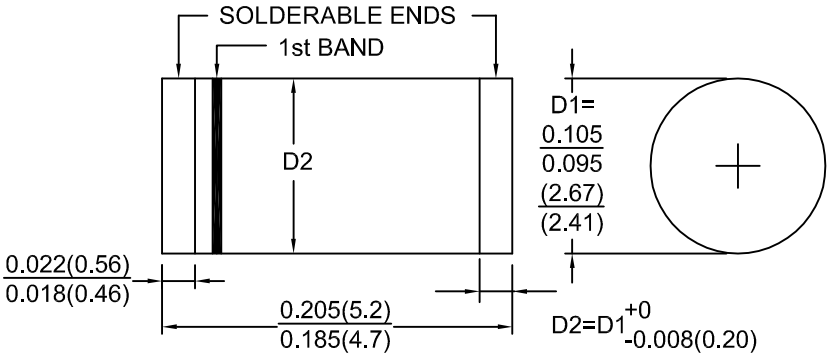
USM101 THRU USM108

ULTRA FAST RECOVERY GLASS PASSIVATED RECTIFIERS

FEATURES:

- Ideal for surface mount applications
- Easy pick and place
- Built-in strain relief
- Glass passivated Chip

MELF / DO-213AB



1st band denotes type positive and (cathode)

Dimensions in inches and (millimeters)

MECHANICAL DATA

Case : Molded plastic use UL 94V-0 recognized flame retardant epoxy
Terminals : Plated terminals,solderable per MIL-STD-202, Method 208 guaranteed
Polarity : Sliver color band on body denotes cathode
Mounting Position : Any
Weight : 0.116 grams, 0.0046 ounce

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25° C ambient temp. unless otherwise specified.
Single phase, half sine wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic	Symbol	USM 101	USM 102	USM 103	USM 104	USM 105	USM 106	USM 107	USM 108	Units
Maximum recurrent peak reverse voltage	V_{RRM}	50	100	200	300	400	600	800	1000	Volts
Maximum RMS voltage	V_{RMS}	35	70	140	212	280	420	560	700	Volts
Maximum DC blocking voltage	V_{DC}	50	100	200	300	400	600	800	1000	Volts
Maximum average forward rectified current at T_L= 55 ° C	$I_{(AV)}$	1.0								Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load(JEDEC Method)	I_{FSM}	30.0								Amps
Maximum instantaneous forward voltage at 1.0 A	V_F	1.0				1.3	1.7			Volts
Maximum DC reverse current Ta=25° C at rated DC blocking voltage Ta=100° C	I_R	5.0 100								μA
Maximum reverse recovery time (NOTE 1)	trr	50.0					75.0			nS
Typical junction capacitance (NOTE 2)	C_J	17.0					15.0			pF
Maximum thermal resistance (NOTE 3)	R_{th-JA} R_{th-JL}	75.0 27.0								° C/W
Operating temperature range	T_J	-65 to +125								° C
Storage temperature range	T_{stg}	-65 to +150								° C

NOTES:
(1) Reverse recovery test condition : I_F=0.5A, I_R=1.0A, I_{rr}=0.25A
(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
(3) P.C.B. mounted on 0.2X0.2"(5.0x5.0mm) copper pad area

FIG.1 - FORWARD CORRENT DERATING CURVE

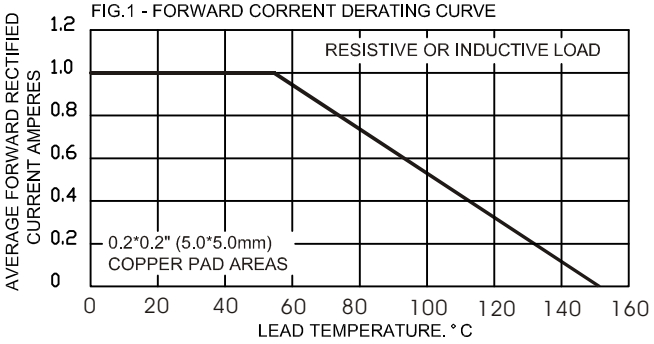


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

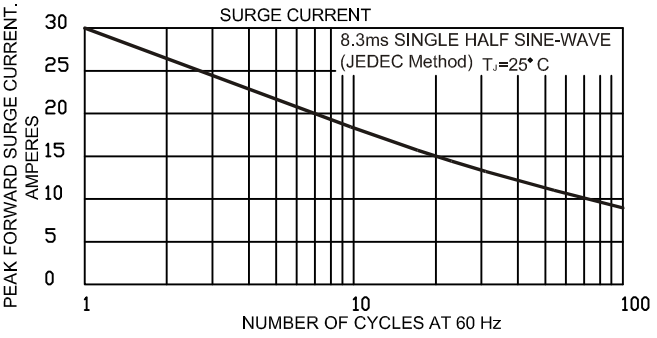


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC

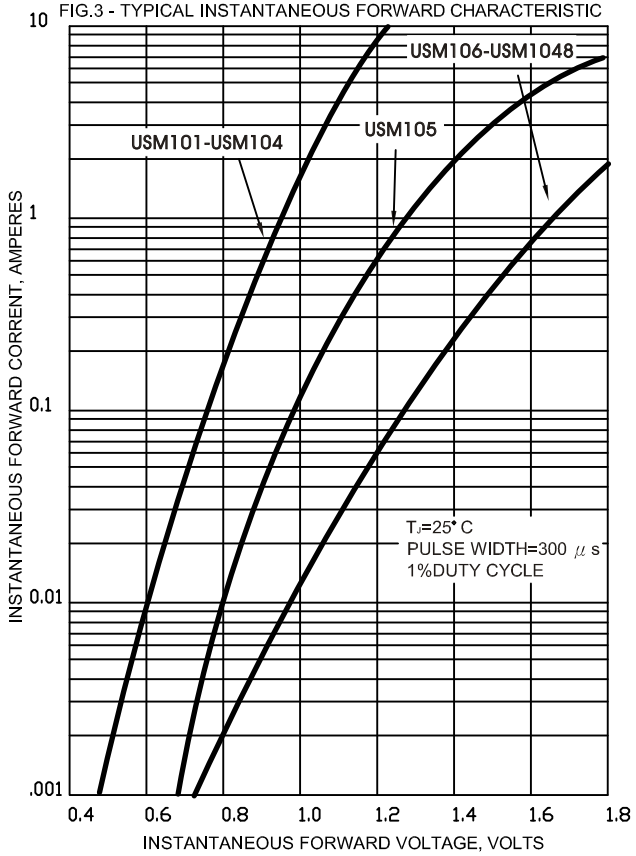


FIG.4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS

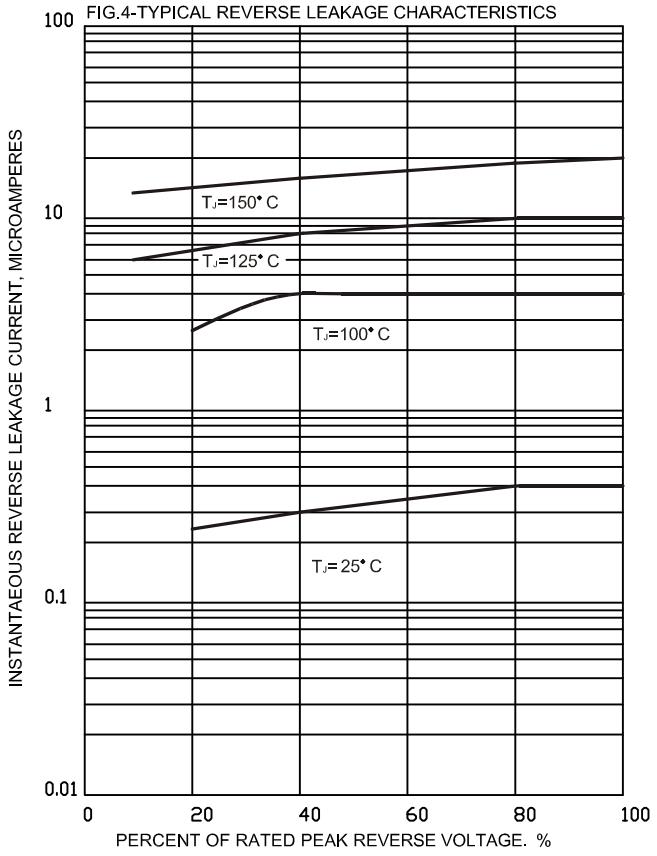


FIG.5-TYPICAL JUNCTION CAPACITANCE

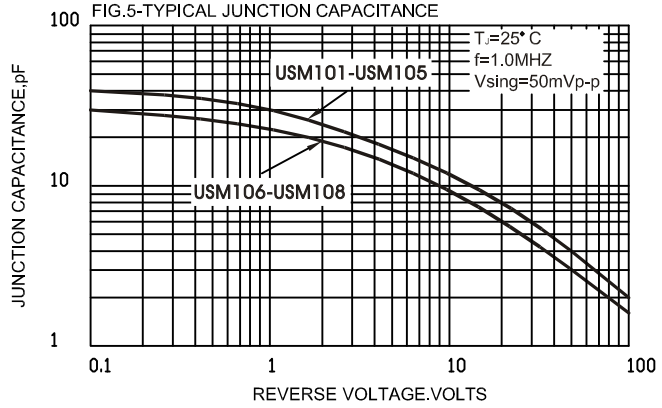


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE