



Features

- Low R_s
- Transition times down to 35 ps
- Output combs to 40 GHz
- Higher efficiency
- Hi-Rel available (MIL-S-19500, MIL-STD-750)

Applications

- Comb generator
- Multiplier
- Pulse generator

Specifications @ 25°C

Model Number	V_{BR} Min. @ 10 μA (Volts)	C_{j6} Typ. (pF)	τ Typ. (ns)	t_t Typ. (ps)	θ_{jc} Typ. (°C/W)	F_{CO} Typ. (GHz)
MMD-805-C12	60	2.5—3.5	100	250	—	130
MMD-805-T86	60	2.5—3.5	100	250	15	130
MMD-810-C12	50	1.5—2.5	70	200	—	200
MMD-810-T86	50	1.5—2.5	70	200	22	200
MMD-820-C12	40	1.0—1.7	60	80	—	390
MMD-820-T86	40	1.0—1.7	60	80	25	390
MMD-830-C11	25	0.5—1.0	30	60	—	700
MMD-830-T86	25	0.5—1.0	30	60	45	700
MMD-832-C11	20	0.4—0.8	12	55	—	660
MMD-832-T86	20	0.4—0.8	12	55	50	660
MMD-835-C11	15	0.3—0.7	20	50	—	800
MMD-835-T86	15	0.3—0.7	20	50	60	800
MMD-837-C11	20	0.2—0.4	10	45	—	1300
MMD-837-T86	20	0.2—0.4	10	45	60	1300
MMD-840-C11	15	0.2—0.4	15	35	—	880
MMD-840-T86	15	0.2—0.4	15	35	60	880

Silicon Multiplier Description

The MMD series of Metelics Multiplier Diodes are constructed using advanced material and processes, resulting in a lower series resistance (R_s) than is produced with conventional methods. This lower R_s results in faster transition times and higher output frequencies. The lower R_s also reduces loss and therefore results in higher efficiency.

Maximum Ratings

Storage Temperature - 65 to + 150°C
 Operating Temperature - 65 to + 150°C
 Soldering Temperature 230°C for 30 sec.
 DC Power Dissipation 100 mW max.
 derate linearly to
 0 mW at + 150°C



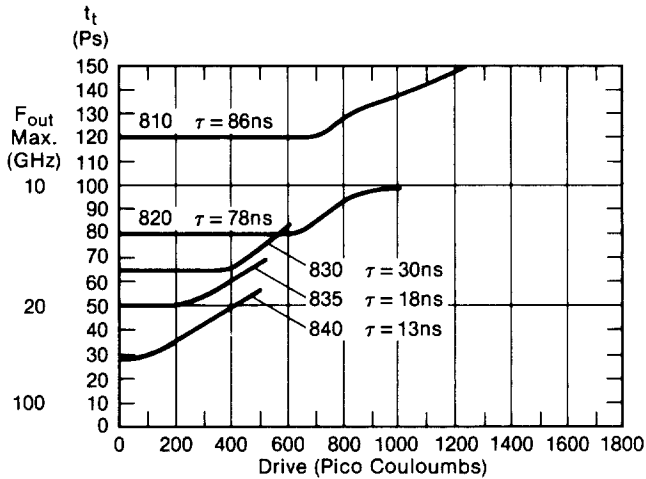
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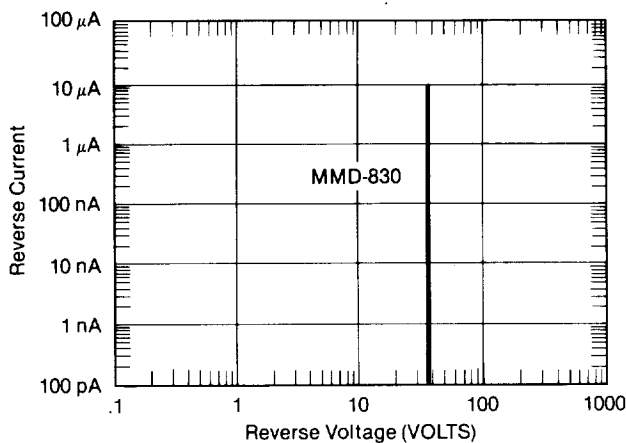
t_t —vs.—Drive

The transition time (t_t) remains constant as drive power is increased to a point. As the power is increased above this point, the t_t degrades and the output becomes "NOISY" or "UNSTABLE." If high input power is available, then select t_t high enough so that $t_t < 1/F_{out}$ with some margin but make t_t as long as possible to allow the highest possible input power.

If input power is limited, then use a diode with a $t_t < < 1/F_{out}$.



I-V Reverse Curve

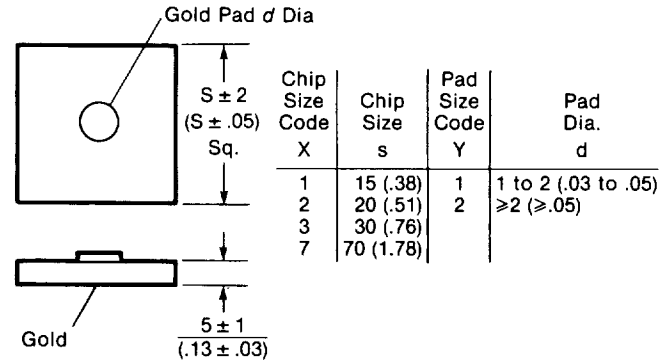


Package Outlines

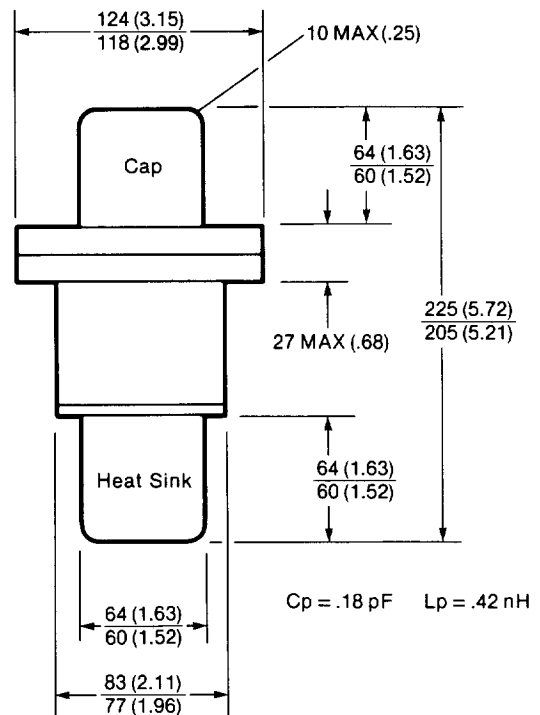
Dimensions are in Mils (mm).

Also available in other outlines. See outline sheet.

C x Y



T86



POLARITY: CATHODE ANODE
 HEAT SINK CAP
 PAD PAD

Notes: Consult factory for special versions, configurations, packages, high reliability screening, or customer designs.

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