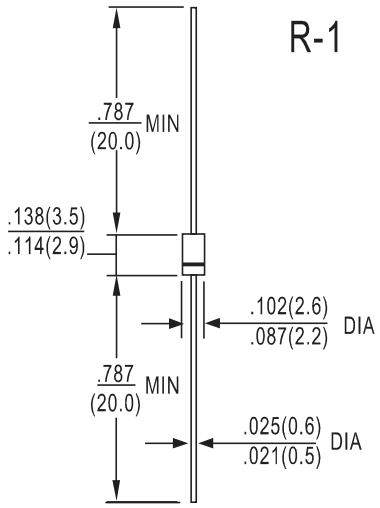
TAYCHIPST MINIATURE ULTRAFAST EFFICIENT PLASTIC RECTIFIER

UG06A THRU UG06D

50V-200V 0.6A

FEATURES

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Ideally suited for use in very high frequency switching power supplies, inverters and as a free wheeling diode
- Ultrafast reverse recovery times for high efficiency
- Soft recovery characteristics
- Excellent high temperature switching
- Glass passivated junction
- High temperature soldering guaranteed: 250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension



Dimensions in inches and (millimeters)

Mechanical Data

Case: Void free molded plastic body over passivated chip
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.0064 ounce, 0.181 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	UG06A	UG06B	UG06C	UG06D	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	Volts
Maximum RMS voltage	V_{RMS}	35	70	105	140	Volts
Maximum DC blocking voltage	V_{DC}	50	100	150	200	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length at T_L=75°C	$I_{(AV)}$	0.6				Amp
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) at T_L=75°C	I_{FSM}	40.0				Amps
Maximum instantaneous forward voltage at 0.6A	V_F	0.95				Volts
Maximum DC reverse current at rated DC blocking voltage T_A=25°C / T_A=100°C	I_R	5.0 / 100.0				µA
Maximum reverse recovery time (NOTE 1)	t_{rr}	15.0				ns
Maximum reverse recovery time (NOTE 2) T_J=25°C / T_J=100°C	t_{rr}	25.0 / 35.0				ns
Maximum recovered stored charge (NOTE 2) T_J=25°C / T_J=100°C	Q_{rr}	8.0 / 20.0				nC
Typical junction capacitance (NOTE 3)	C_J	9.0				pF
Typical thermal resistance (NOTE 4)	$R_{\Theta JA}$ / $R_{\Theta JL}$	97.0 / 28.0				°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150				°C

NOTES:
(1) Reverse recovery test conditions: I_F=0.5A, I_R=1.0A, I_{rr}=0.25A
(2) t_{rr} and Q_{rr} measured at I_F=0.6A: V_R=30V, di/dt=50A/µs, I_{rr}=10% I_{RM} for meaurement of t_{rr}
(3) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
(4) Thermal resistance from junction to ambient and junction to lead at 0.375" (9.5mm) lead length P.C.B. mounted with 0.2 x 0.2" (5.0 x 5.0mm) copper pads

RATINGS AND CHARACTERISTIC CURVES UG06A THRU UG06D

FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVES

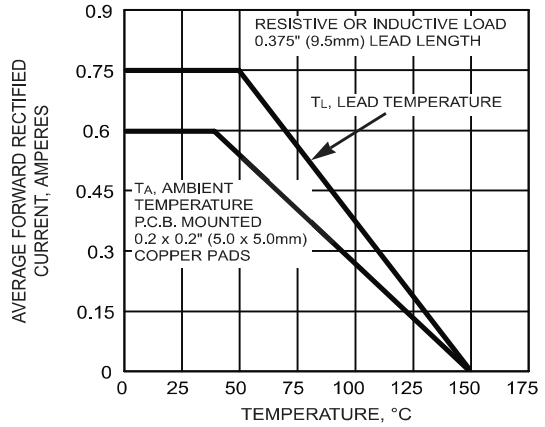


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

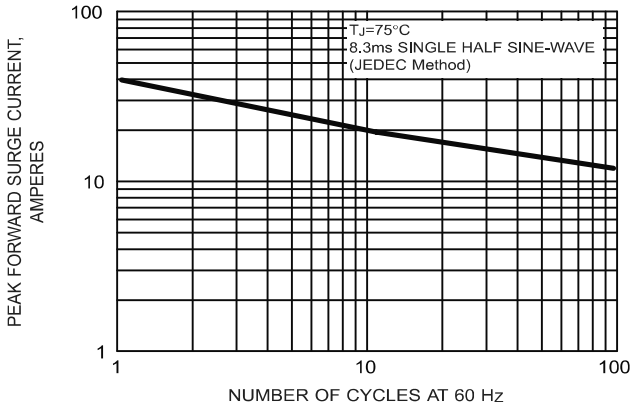


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

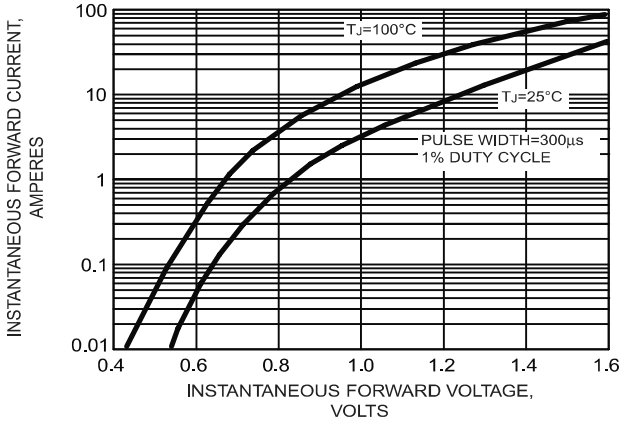


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

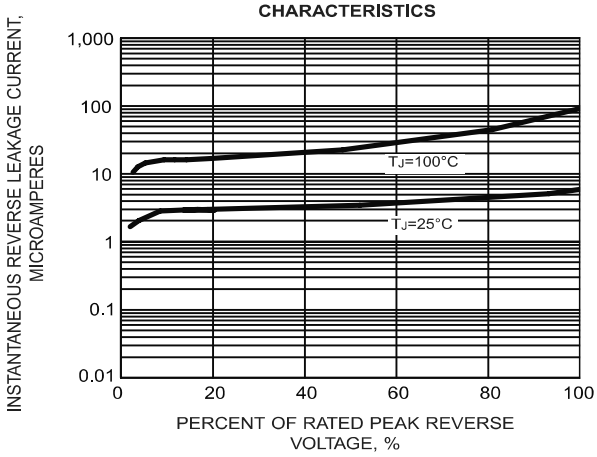


FIG. 5 - REVERSE SWITCHING CHARACTERISTICS

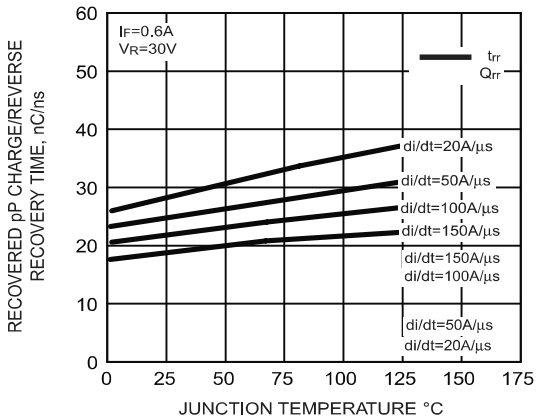


FIG. 6 - TYPICAL JUNCTION CAPACITANCE