DIGITRON™ Semiconductors

High-reliability discrete products
and engineering services since 1977

MUR170E-MUR1100E

1 AMP ULTRA FAST RECTIFIER

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Rating	Symbol	MUR				Unit
		170E	180E	190E	1100E	
Peak repetitive reverse voltage **Working peak reverse voltage** **DC blocking voltage**	V_{RRM} V_{RWM} V_R	700	800	900	1000	V
Average rectified forward current (square wave) Mounting method per note 2	$I_{F(AV)}$	1.0 @ T_A = 95°C				A
Non-repetitive peak surge current (surge applied at rated load conditions halfwave, single phase, 60Hz)	I_{FSM}	35				A
Operating and storage junction temperature range	T_J, T_{stg}	-65 to +175				°C
Maximum thermal resistance Junction to ambient	$R_{\Theta JA}$	Note 1				°C/W

ELECTRICAL CHARACTERSITICS (T_A = 25°C unless otherwise specified)

Parameter	Symbol	MUR				Unit
		170E	180E	190E	1100E	
Maximum instantaneous forward voltage (1) (I_F = 1.0A, T_J = 150°C) (I_F = 1.0A, T_J = 25°C)	V_F	1.50 1.75				V
Maximum instantaneous reverse current (1) (Rated dc voltage, T_J = 100°C) (Rated dc voltage, T_J = 25°C)	I_R	600 10				µA
Maximum reverse recovery time (I_F = 1.0A, di/dt = 50A/µs) (I_F = 0.5A, I_R = 1.0A, I_{REC} = 0.25A)	t_{rr}	100 75				ns
Maximum forward recovery time (I_F = 1.0A, di/dt = 100A/µs, I_{REC} to 1.0V)	t_{fr}	75				ns
Controlled avalanche energy	W_{AVAL}	10				mJ

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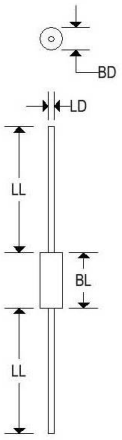
MECHANICAL CHARACTERISTICS

Case	DO-41
Marking	Body painted, alpha-numeric
Polarity	Cathode band



	DO-41			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	-	0.107	-	2.720
BL	-	0.205	-	5.207
LD	0.028	0.034	0.711	0.864
LL	1.000	-	25.400	-

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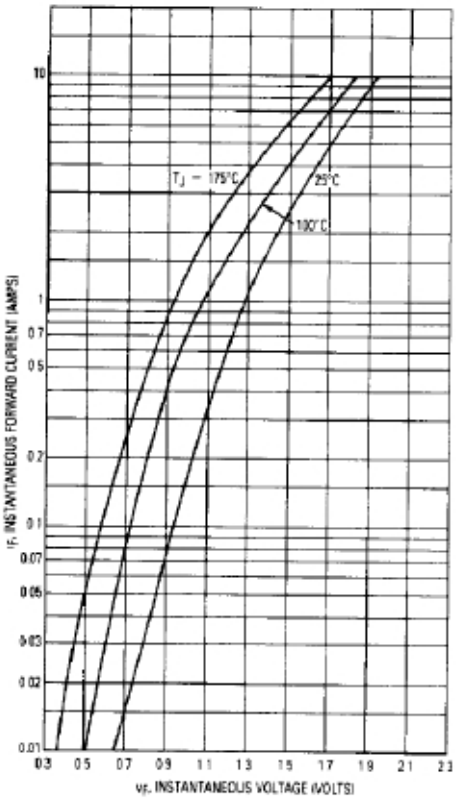

Figure 1. Typical Forward Voltage

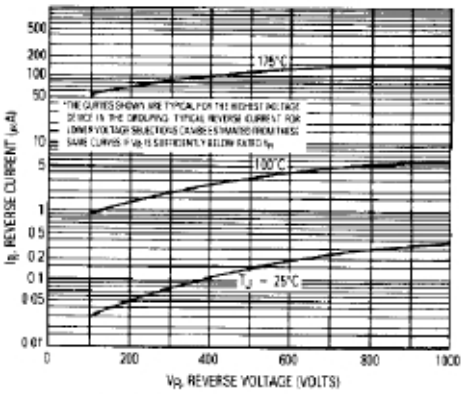

Figure 2. Typical Reverse Current*

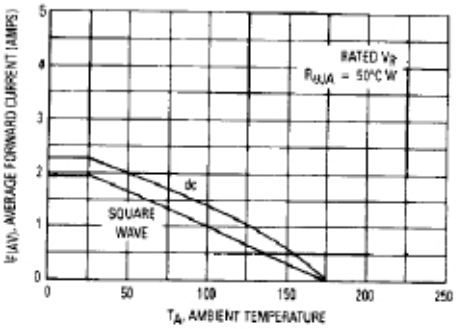

Figure 3. Current Derating (Mounting Method #3 Per Note 1)

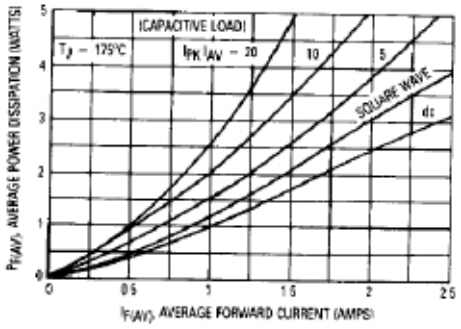

Figure 4. Power Dissipation

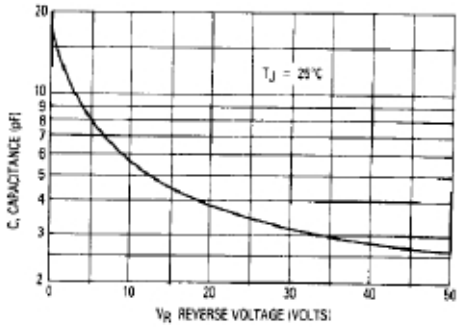

Figure 5. Typical Capacitance

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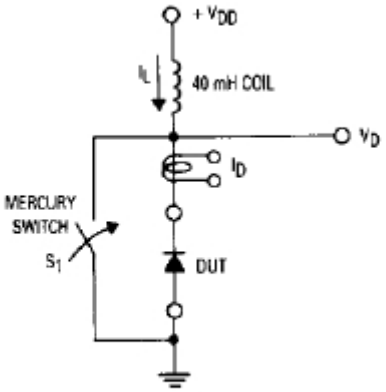

Figure 6. Test Circuit

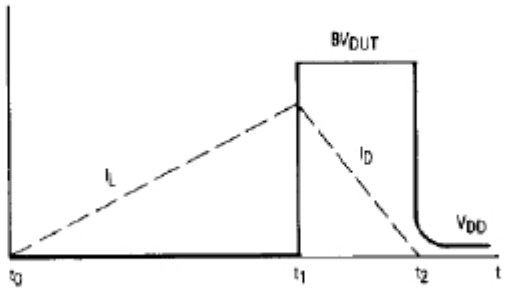

Figure 7. Current-Voltage Waveforms