

DIGITRON SEMICONDUCTORS

MUR10120E

10A STANDARD RECOVERY RECTIFIER

MAXIMUM RATINGS

Rating	Symbol	MUR10120E	Unit
Peak repetitive reverse voltage Working peak reverse voltage DC blocking voltage	V_{RRM} V_{RWM} V_R	1200	V
Average rectified forward current (Rated V_R)	$I_{F(AV)}$	10 @ $T_C = 125^\circ\text{C}$	A
Peak repetitive forward current (Rated V_R square wave, 20 kHz)	I_{FRM}	20	A
Non-repetitive peak surge current (surge applied at rated load conditions, halfwave, single phase, 60Hz)	I_{FSM}	100	A
Operating and storage junction temperature range	T_J, T_{stg}	-65 to +125	$^\circ\text{C}$
Controlled avalanche energy	W_{AVL}	20	mJ
Maximum thermal resistance Junction to case	$R_{\theta JC}$	2.0	$^\circ\text{C/W}$

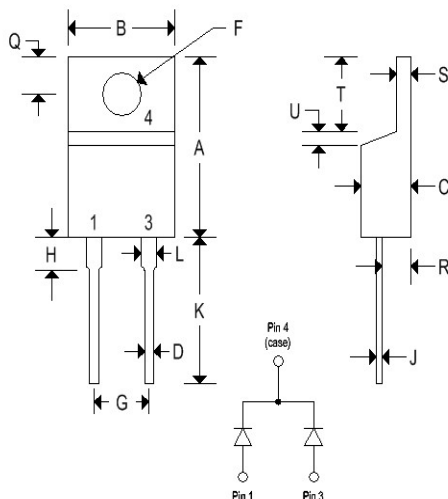
ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	MUR10120E	Unit
Maximum instantaneous forward voltage ⁽¹⁾ ($I_F = 6.5\text{A}$, $T_C = 25^\circ\text{C}$) ($I_F = 6.5\text{A}$, $T_C = 25^\circ\text{C}$)	V_F	2.0 2.2	V
Maximum instantaneous reverse current ⁽¹⁾ (Rated dc voltage, $T_C = 125^\circ\text{C}$) (Rated dc voltage, $T_C = 25^\circ\text{C}$)	I_R	1000 100	μA
Maximum reverse recovery time ($I_F = 1.0\text{A}$, $di/dt = 50\text{A}/\mu\text{s}$)	t_{rr}	175	ns
Maximum forward recovery time ($I_F = 6.5\text{A}$, $di/dt = 12\text{A}/\mu\text{s}$)	t_{fr}	175	ns
Peak transient overshoot voltage	V_{RFM}	14	V

Note 1: Pulse test: Pulse width = 300 μs , duty cycle $\leq 2.0\%$.

MECHANICAL CHARACTERISTICS

Case	TO-220AC
Marking	Alpha-numeric
Pin out	See below



	TO-220AC			
	Inches		Millimeters	
	Min	Max	Min	Max
A	0.595	0.620	15.110	15.750
B	0.380	0.405	9.650	10.290
C	0.160	0.190	4.060	4.820
D	0.142	0.147	3.610	3.730
F	0.142	0.147	3.610	3.730
G	0.190	0.210	4.830	5.330
H	0.110	0.130	2.790	3.300
J	0.018	0.025	0.460	0.640
K	0.500	0.562	12.700	14.270
L	0.045	0.050	1.140	1.270
Q	0.100	0.120	2.540	3.040
R	0.080	0.110	2.040	2.790
S	0.045	0.055	1.140	1.390
T	0.235	0.255	5.970	6.480
U	0.030	0.050	0.760	1.270

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Available Non-RoHS (standard) or RoHS compliant (add PBF suffix).

Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.

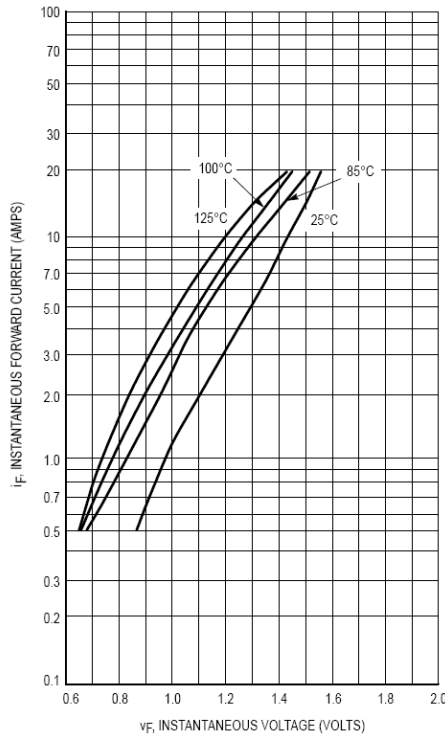


Figure 1. Typical Forward Voltage

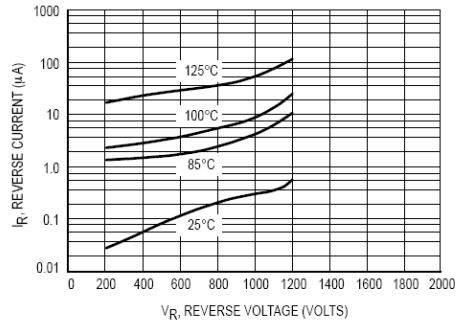


Figure 2. Typical Reverse Current

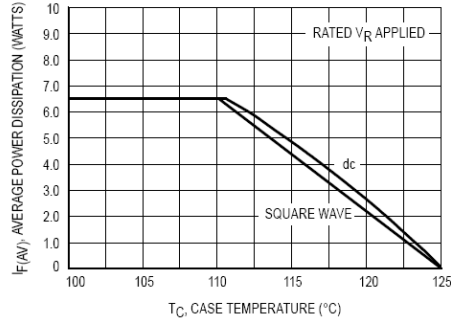


Figure 3. Current Derating, Case

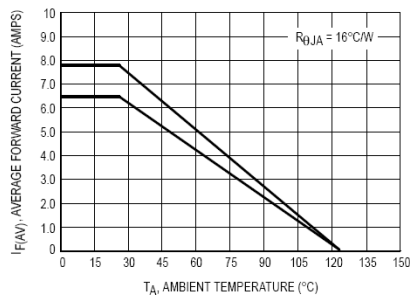


Figure 4. Current Derating, Ambient

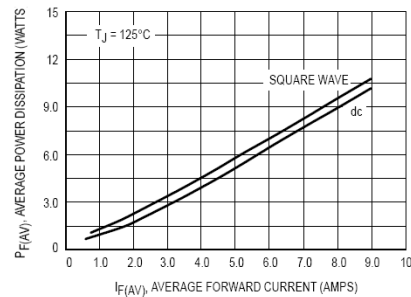


Figure 5. Power Dissipation

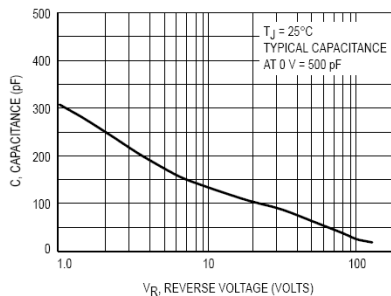


Figure 6. Typical Capacitance