

Specifications RURG3070CC, RURG3080CC, RURG3090CC, RURG30100CC

Electrical Specifications $T_C = +25^\circ\text{C}$, Unless Otherwise Specified

SYMBOL	TEST CONDITION	LIMITS												UNITS
		RURDG3070CC			RURG3080CC			RURG3090CC			RURG30100CC			
		MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
V_F	$I_F = 30\text{A}$ $T_C = +150^\circ\text{C}$	-	-	1.50	-	-	1.50	-	-	1.50	-	-	1.50	V
	$I_F = 30\text{A}$ $T_C = +25^\circ\text{C}$	-	-	1.80	-	-	1.80	-	-	1.80	-	-	1.80	V
I_R at $T_C = +150^\circ\text{C}$	$V_R = 700\text{V}$	-	-	1	-	-	-	-	-	-	-	-	-	mA
	$V_R = 800\text{V}$	-	-	-	-	-	1	-	-	-	-	-	-	mA
	$V_R = 900\text{V}$	-	-	-	-	-	-	-	1	-	-	-	-	mA
	$V_R = 1000\text{V}$	-	-	-	-	-	-	-	-	-	-	-	1	mA
I_R at $T_C = +25^\circ\text{C}$	$V_R = 700\text{V}$	-	-	500	-	-	-	-	-	-	-	-	-	μA
	$V_R = 800\text{V}$	-	-	-	-	-	500	-	-	-	-	-	-	μA
	$V_R = 900\text{V}$	-	-	-	-	-	-	-	500	-	-	-	-	μA
	$V_R = 1000\text{V}$	-	-	-	-	-	-	-	-	-	-	-	500	μA
t_{RR}	$I_F = 1\text{A}$	-	-	110	-	-	110	-	-	110	-	-	110	ns
	$I_F = 30\text{A}$	-	-	150	-	-	150	-	-	150	-	-	150	ns
t_A	$I_F = 30\text{A}$	-	90	-	-	90	-	-	90	-	-	90	-	ns
t_B	$I_F = 30\text{A}$	-	45	-	-	45	-	-	45	-	-	45	-	ns
$R_{\theta JC}$		-	-	1.2	-	-	1.2	-	-	1.2	-	-	1.2	$^\circ\text{C/W}$
E_{AVL}		-	-	30	-	-	30	-	-	30	-	-	30	mJ

DEFINITIONS

V_F = Instantaneous forward voltage (pw = 300 μs , D = 2%).

I_R = Instantaneous reverse current.

t_{RR} = Reverse recovery time (See Figure 2), at $di_F/dt = 100\text{A}/\mu\text{s}$ summation of $t_A + t_B$.

t_A = Time to reach peak reverse current at $di_F/dt = 100\text{A}/\mu\text{s}$ (See Figure 2).

t_B = Time from peak I_{RM} to projected zero crossing of I_{RM} based on a straight line from peak I_{RM} through 25% of I_{RM} (See Figure 2).

$R_{\theta JC}$ = Thermal resistance junction to case.

pw = pulse width.

D = duty cycle.

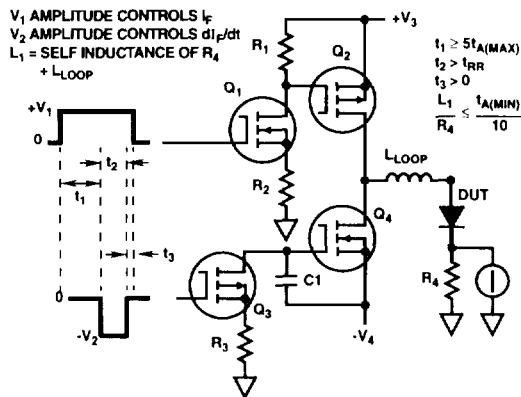


FIGURE 1. t_{RR} TEST CIRCUIT

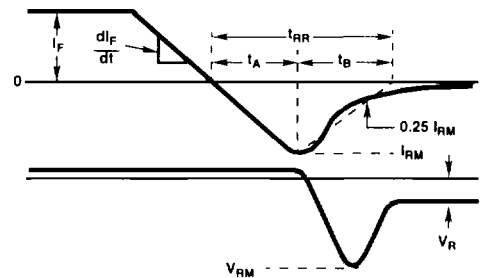


FIGURE 2. t_{RR} WAVEFORMS AND DEFINITIONS

Typical Performance Curves

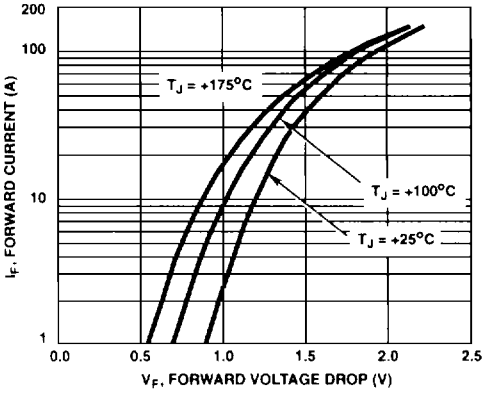


FIGURE 3. TYPICAL FORWARD CURRENT vs FORWARD VOLTAGE DROP

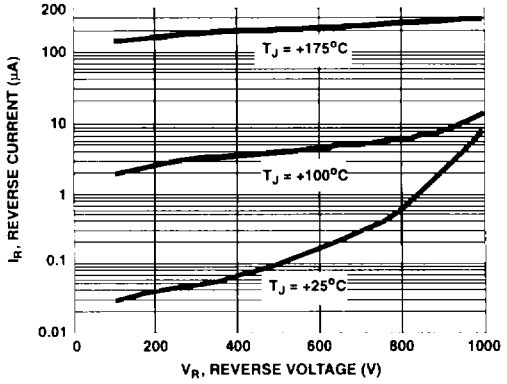


FIGURE 4. TYPICAL REVERSE CURRENT vs VOLTAGE

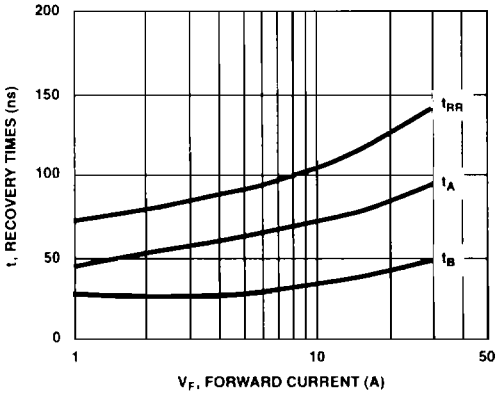


FIGURE 5. TYPICAL t_{RR} , t_A AND t_B CURVES vs FORWARD CURRENT

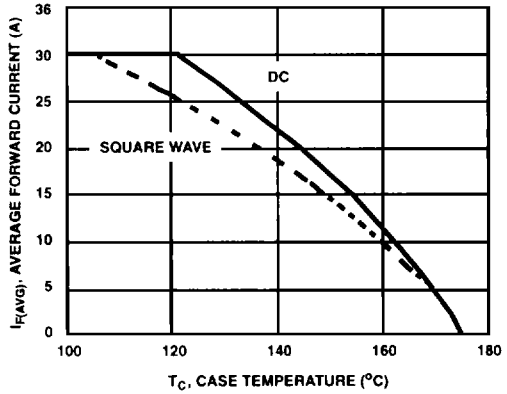


FIGURE 6. CURRENT DERATING CURVE FOR ALL TYPES

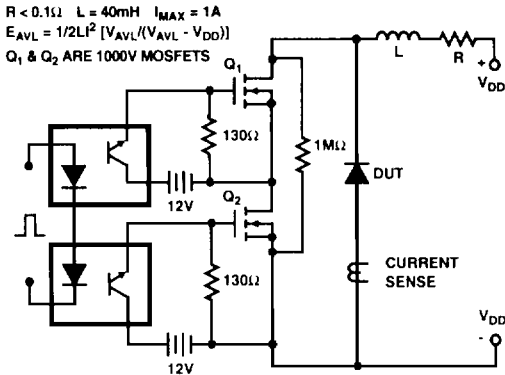


FIGURE 7. AVALANCHE ENERGY TEST CIRCUIT

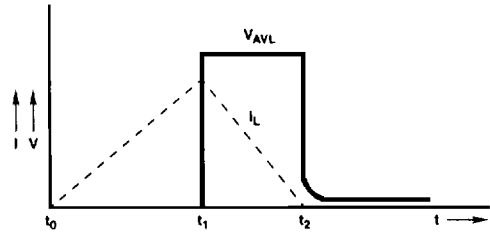


FIGURE 8. AVALANCHE CURRENT AND VOLTAGE WAVEFORMS


 ULTRAFAST
 DUAL DIODES