



DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

DC
8FR060T

TECHNICAL SPECIFICATIONS OF FAST RECOVERY EPITAXIAL DIODE

VOLTAGE RANGE - 600 Volts

CURRENT - 8.0 Amperes

FEATURES

- * Ultra fast recovery time
- * Low forward voltage drop
- * High surge current capability
- * Soft recovery characteristic
- * Low recovery loss

MECHANICAL DATA

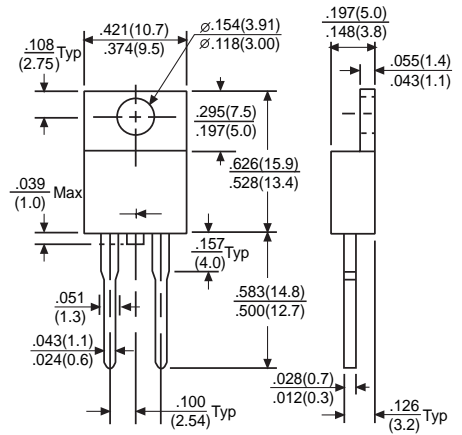
- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Lead: MIL-STD-202E, Method 208 guaranteed
- * Polarity: As marked
- * Mounting position: Any
- * Weight: 2.24 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.



TO-220AC



Dimensions in inches and (millimeters)

PARAMETER	SYMBOL	DC8FR060T	UNITS
Maximum Recurrent Peak Reverse Voltage	VRRM	600	Volts
Average Forward Rectified Current at T _J = 110°C	I _O	8	Amps
Non-Repetitive Surge Forward Current T _P = 10ms (50HZ) Sine Wave	I _{FSM}	110	Amps
Avalanche Energy with Single Pulse (L = 40mH)	E _{AS}	80	mJ
Maximum Power Dissipation	P _D	50	W
Junction-to-Case Thermal Resistance	R _{θJA}	2.5	°C/W
Junction-to-Ambient Thermal Resistance	R _{θJC}	70	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to 150	°C

RATING AND CHARACTERISTIC CURVES (DC8FR060T)

PARAMETER		SYMBOL	Min.	Typ.	Max.	UNITS
Minimum Breakdown Voltage $I_R = 100\mu A$		V_{BR}	600	-	-	Volts
Maximum Instantaneous Forward Voltage $I_F = 8A$	@ $T_J = 25^\circ C$	V_F	-	1.7	2.1	Volts
	@ $T_J = 125^\circ C$		-	1.4	1.9	
Maximum DC Reverse Current at Rated DC Blocking Voltage	@ $T_J = 25^\circ C$	I_R	-	-	10	μA mps
	@ $T_J = 125^\circ C$		-	-	250	
Reverse Recovery Time $I_F = 1A, V_R = 30V, di/dt = -200A/\mu s$		T_{RR}	-	18	28	nS
Reverse Recovery Time $I_F = 8A, V_R = 300V, di/dt = -200A/\mu s$	@ $T_J = 25^\circ C$	T_{RR}	-	22	-	nS
	@ $T_J = 125^\circ C$		-	48	-	
Reverse Recovery Time $I_F = 8A, V_R = 300V, di/dt = -200A/\mu s$	@ $T_J = 25^\circ C$	I_{RRM}	-	2.5	-	Amps
	@ $T_J = 125^\circ C$		-	5.5	-	
Reverse Recovery Time $I_F = 8A, V_R = 300V, di/dt = -200A/\mu s$	@ $T_J = 25^\circ C$	Q_{rr}	-	28	-	nC
	@ $T_J = 125^\circ C$		-	135	-	

FIG. 1 - AVERAGE FORWARD CURRENT vs. MAXIMUM ALLOWABLE CASE TEMPERATURE

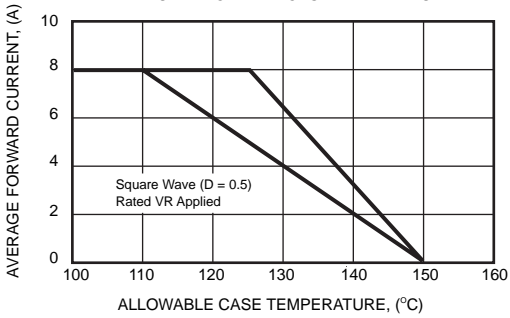


FIG. 2 - TYPICAL FORWARD VOLTAGE DROP CHARACTERISTICS

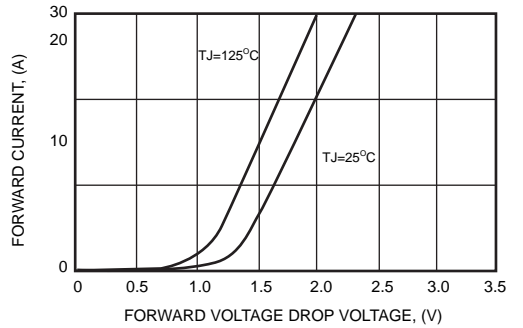


FIG. 3 - TYPICAL VALUE OF REVERSE CURRENT vs. REVERSE VOLTAGE

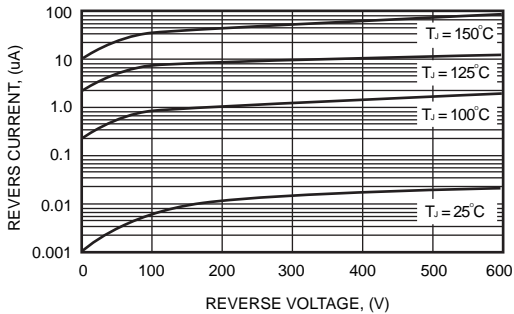


FIG. 4 - TYPICAL JUNCTION CAPACITANCE vs. REVERSE VOLTAGE

