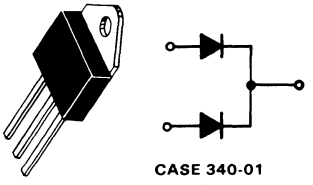
SD41 See Page 3-72
SD51 See Page 3-76
SD241 See Page 3-116

MOTOROLA

R710XPT R712XPT R711XPT R714XPT

FAST RECOVERY RECTIFIERS

30 AMPERES
50 to 400 VOLTS



CASE 340-01
TO-218AC

3

SWITCHMODE POWER RECTIFIERS

. . . designed for special applications such as dc power supplies, inverters, converters, ultrasonic systems, choppers, low RF interference, sonar power supplies and free wheeling diodes. A complete line of fast recovery rectifiers having typical recovery time of 150 nanoseconds providing high efficiency at frequencies to 50 kHz.

- Dual Diode Construction
- 150°C Operating Junction Temperature

CROSS-REFERENCE GUIDE	
MOTOROLA	**VARO**
R710XPT	—
R711XPT	R711X
R712XPT	R712X
R714XPT	R714X

MAXIMUM RATINGS

Rating		Symbol	Maximum	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	R710XPT R711XPT R712XPT R714XPT	V_{RRM} V_{RWM} V_R	50 100 200 400	Volts
Average Rectified Forward Current (Rated V_R) T_C = 100°C	Per Device Per Diode	I_O	30 15	Amps
Peak Repetitive Forward Current, Per Diode (1 Second at 60 Hz, T_C = 100°C)		I_{FRM}	50	Amps
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)		I_{FSM}	150	Amps
Operating Junction and Storage Temperature		T_J, T_{stg}	-65 to +150	°C

THERMAL CHARACTERISTICS PER DIODE

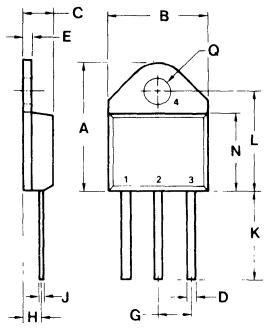
Characteristic	Symbol	Maximum	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.5	°C/W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	40	°C/W

ELECTRICAL CHARACTERISTICS PER DIODE

Characteristic	Symbol	Maximum	Unit
Instantaneous Forward Voltage (1) (i_F = 15 Amp, T_C = 25°C)	v_F	1.30	Volts
Instantaneous Reverse Current (1) (Rated dc Voltage, T_C = 100°C) (Rated dc Voltage, T_C = 25°C)	i_R	 1.0 0.015	mA
Reverse Recovery Time (I_F = 1.0 Ampere to V_R = 30 Vdc)	t_{rr}	100	ns

(1) Pulse Test: Pulse Width = 300 μs, Duty Cycle ≤ 2.0%

Switchmode is a trademark of Motorola Inc.



1. ANODE 1
2. CATHODE(S)
3. ANODE 2
4. CATHODE(S)

	MILLIMETERS		INCHES	
DIM	MIN	MAX	MIN	MAX
A	20.32	21.08	0.800	0.830
B	15.49	15.90	0.610	0.626
C	4.19	5.08	0.165	0.200
D	1.02	1.65	0.040	0.065
E	1.35	1.65	0.053	0.065
G	5.21	5.72	0.205	0.225
H	2.41	3.20	0.095	0.126
J	0.38	0.64	0.015	0.025
K	12.70	15.49	0.500	0.610
L	15.88	16.51	0.625	0.650
N	12.19	12.70	0.480	0.500
Q	4.04	4.22	0.159	0.166

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FIGURE 1 — TYPICAL FORWARD VOLTAGE

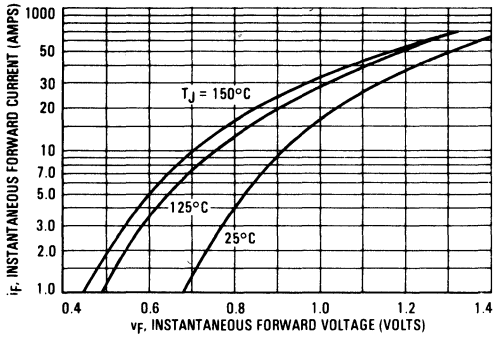

FIGURE 2 — TYPICAL REVERSE CURRENT

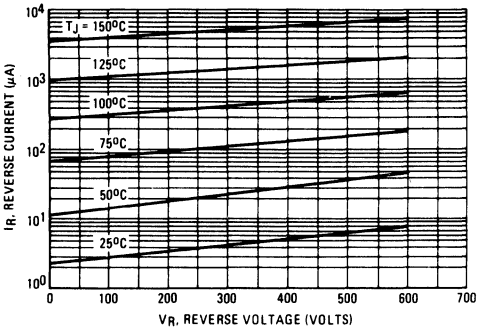

FIGURE 3 — CURRENT DERATING — TOTAL UNIT

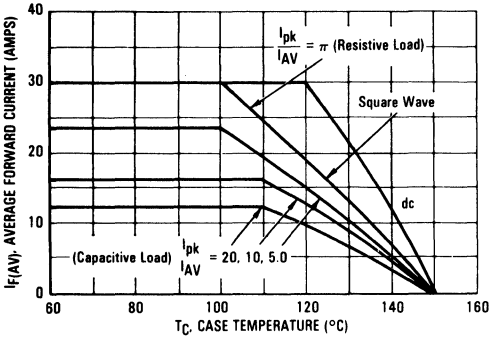

FIGURE 4 — TYPICAL CAPACITANCE

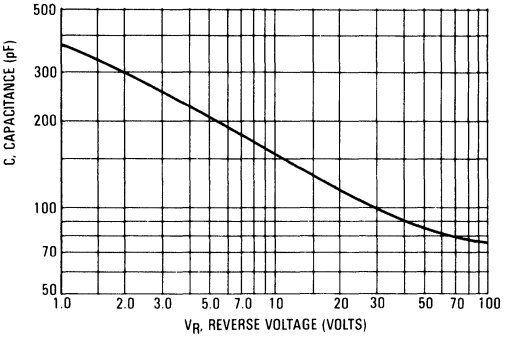

FIGURE 5 — POWER DISSIPATION — TOTAL UNIT

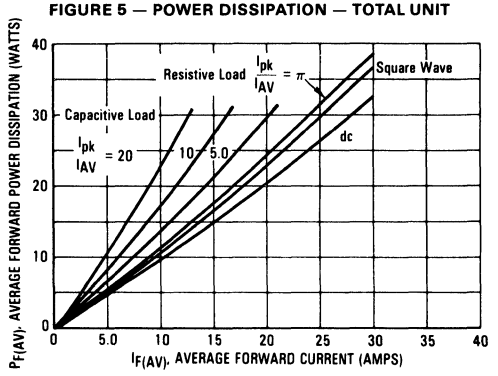

FIGURE 6 — MAXIMUM SURGE CAPABILITY