T-23-07

MICRO QUALITY SEMICONDUCTOR, INC

TO-3 CASE

30 Amp Center Tapped Silicon Integrated Rectifiers

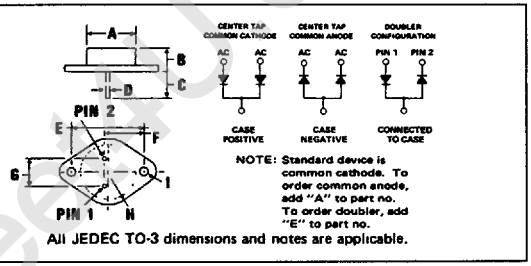
Controlled Avalanche Types with 250V, 450V, and 650V Minimum Avalanche Ratings

Non-Controlled Avalanche Types with 100V, 200V, 400V and 600V V_{RRM} Ratings

High Cycle Surge Current

Fast Recovery Types with 200 Nanosecond Maximum t_{rr}

LTR.	INCHES	MILLIMETERS
A	.73–.77 Dia.	18,54–19,56 Dia.
B	.323–.342	8,20–8,69
C	.40 Min.	10,16
D	.038–.043 Dia.	,97–1,09
E	1.180–1.194	29,97–30,33
F	.665–.675	16,89–17,15
G	.426–.440	10,82–11,18
H	.525R Max.	13,34R
I	.151–.161 Dia.	3,34–4,09



NOTE: Standard device is common cathode. To order common anode, add "A" to part no. To order doubler, add "E" to part no.

All JEDEC TO-3 dimensions and notes are applicable.

MAXIMUM RATINGS (At $T_A = 25°C$ unless otherwise noted)

RATINGS	SYMBOL	CONTROLLED AVALANCHE			NON-CONTROLLED AVALANCHE				FAST RECOVERY TIME				UNITS
Series Number		R702	R704	R706	R711	R712	R714	R716	R711X	R712X	R714X	R716X	
DC Blocking Voltage Working Peak Reverse Voltage Peak Repetitive Reverse Voltage	V_{RM} V_{RWM} V_{RRM}	200	400	600	100	200	400	600	100	200	400	600	Volts
RMS Reverse Voltage	$V_{R(RMS)}$	140	280	420	70	140	280	420	70	140	280	420	Volts
Power Dissipation in $V_{(BR)}$ Region for 100 μ sec Square Wave (Per diode)	P_{RM}	1500			NA				NA				Watts
Continuous Power Dissipation in $V_{(BR)}$ Region at $T_C = 100°C$ (Per diode)	P_R	4			NA				NA				Watts
Peak Surge Current, ½ Cycle at 60 Hz, (Non-Rep) and $T_C = 100°C$ (Per diode) (Fig. 2)	I_{FSM}	300							150				Amps
Peak Surge Current, 1 sec at 60 Hz and $T_C = 100°C$ (Per diode) (Fig. 2)	I_{FRM}	60							50				Amps
Avg. Forward Current at $T_C = 100°C$ (Per diode)	I_O	15											Amps
Junction Operating and Storage Temperature Range	T_J, T_{STG}	−65 to +150											°C
Fusing Data	I^2T	375							95				Amps²-Sec.

ELECTRICAL CHARACTERISTICS (At $T_A = 25°C$ unless otherwise noted)

CHARACTERISTICS	SYMBOL	CONTROLLED AVALANCHE			NON-CONTROLLED AVALANCHE				FAST RECOVERY TIME				UNITS
Series Number		R702	R704	R706	R711	R712	R714	R716	R711X	R712X	R714X	R716X	
Minimum Avalanche Voltage	V_{BR}	250	450	650	NA				NA				Volts
Maximum Avalanche Voltage	V_{BR}	700	900	1100	NA				NA				Volts
Maximum Instantaneous Forward Voltage Drop (Per diode) at 15 Amps (Fig. 3)	V_{FM}	1.2							1.4				Volts
Maximum Reverse Current at Rated V_{RM} at $T_C = 100°C$	I_{RM}	1							5				mA
Maximum Reverse Recovery Time at $I_F = 1A$, $I_F = 2A$ $I_{RR} = 0.5$ Amp	t_{rr}	NA							200				nsec
Maximum Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.5											°C/W

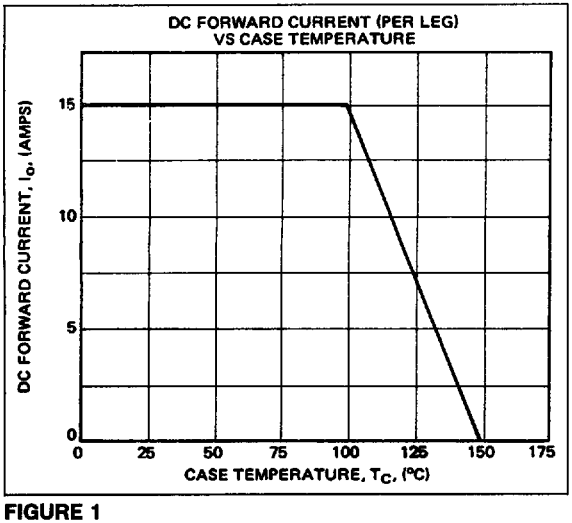


FIGURE 1

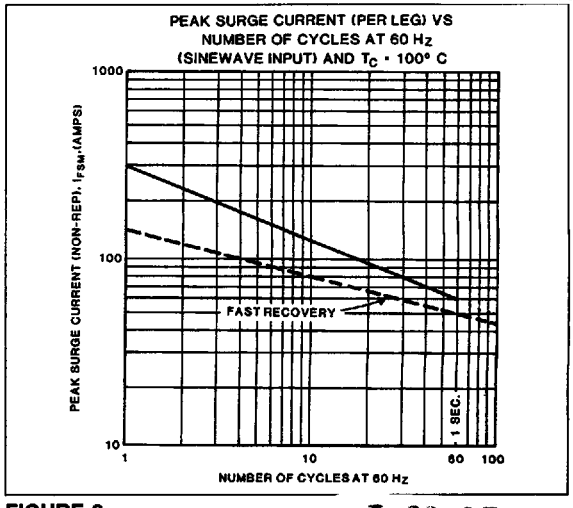


FIGURE 2

T-23-07

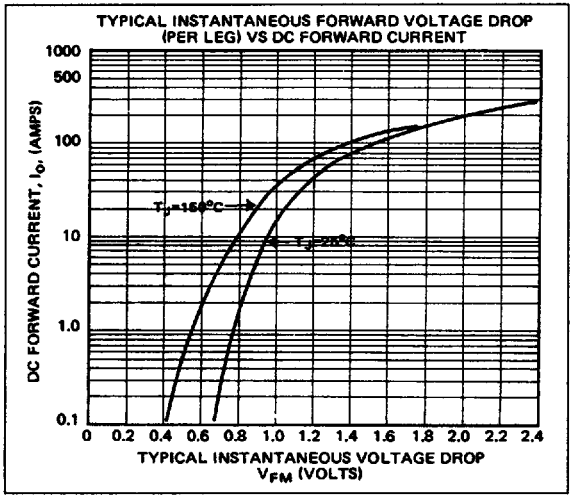


FIGURE 3

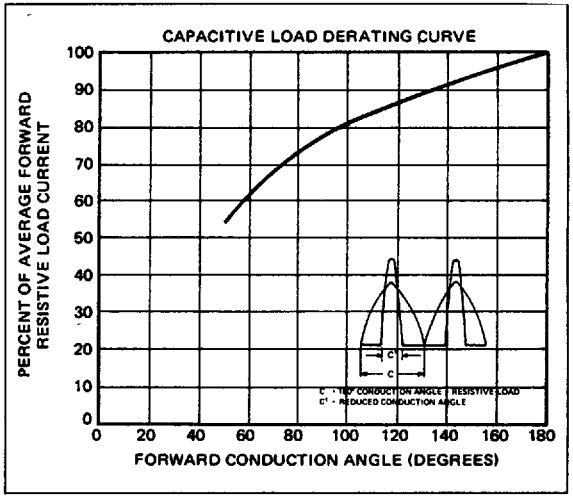


FIGURE 4

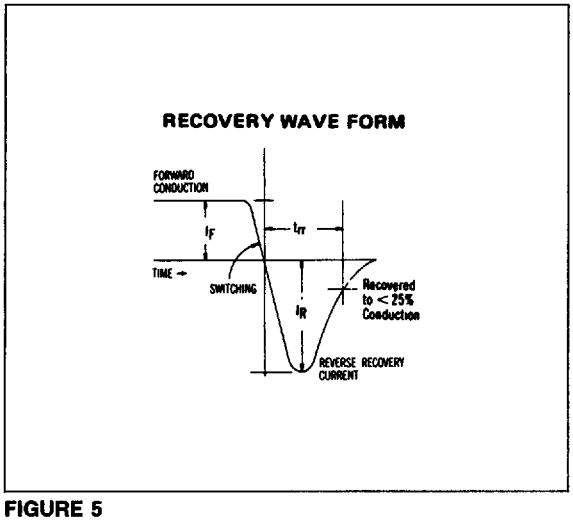


FIGURE 5