

Advance Information

Overvoltage Transient Suppressors

... designed for applications requiring a low voltage rectifier with reverse avalanche characteristics for use as reverse power transient suppressors. Developed to suppress transients in the automotive system, these devices operate in the forward mode as standard rectifiers or reverse mode as power avalanche rectifier and will protect electronic equipment from overvoltage conditions.

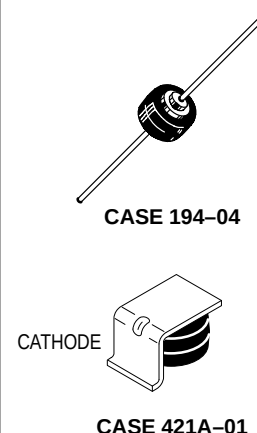
- Avalanche Voltage 24 to 32 Volts
- High Power Capability
- Economical
- Increased Capacity by Parallel Operation

Mechanical Characteristics

- Case: Epoxy, Molded
- Weight: 2.5 grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Polarity: cathode polarity band
- MR2535L shipped 1000 units per plastic bag. Available Tape and Reeled, 800 units per reel by adding a "RL" suffix to the part number.
- MR2535S shipped pocket tape and reeled, 500 per 13" reel
- Marking: MR2535L, MR2535S

MR2535L
MR2535S

MEDIUM CURRENT
OVERVOLTAGE
TRANSIENT
SUPPRESSORS



MAXIMUM RATINGS

www.DataSheet4U.com

Rating	Symbol	Value	Unit
DC Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	20	Volts
Repetitive Peak Reverse Surge Current (Time Constant = 10 ms, Duty Cycle $\leq$ 1%, $T_C = 25^\circ\text{C}$) (See Figure 1)	I_{RSM}	110	Amps
Average Rectified Forward Current (Single Phase, Resistive Load, 60 Hz, $T_C = 150^\circ\text{C}$)	I_O	35	Amps
Non-Repetitive Peak Surge Current Surge Supplied at Rated Load Conditions Halfwave, Single Phase	I_{FSM}	600	Amps
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to +175	$^\circ\text{C}$

THERMAL CHARACTERISTICS

Characteristic	Lead Length	Symbol	Max	Unit
Thermal Resistance, Junction to Lead @ Both Leads to Heat Sink, Equal Length	1/4" 3/8" 1/2"	$R_{\theta JL}$	7.5 10 13	$^\circ\text{C/W}$
Thermal Resistance Junction to Case		$R_{\theta JC}$	0.8*	$^\circ\text{C/W}$

*Typical

This document contains information on a new product. Specifications and information herein are subject to change without notice.

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min	Max	Unit
Instantaneous Forward Voltage (1) ($I_F = 100$ Amps, $T_C = 25^\circ\text{C}$)	V_F	—	1.1	Volts
Reverse Current ($V_R = 20$ Vdc, $T_C = 25^\circ\text{C}$)	I_R	—	200	nAdc
Breakdown Voltage (1) ($I_R = 100$ mAdc, $T_C = 25^\circ\text{C}$)	$V_{(BR)}$	24	32	Volts
Breakdown Voltage (1) ($I_R = 90$ Amp, $T_C = 150^\circ\text{C}$, $PW = 80$ μs)	$V_{(BR)}$	—	40	Volts
Breakdown Voltage Temperature Coefficient	$V_{(BR)TC}$	—	0.096*	%/ $^\circ\text{C}$
Forward Voltage Temperature Coefficient @ $I_F = 10$ mA	V_{FTC}	—	2*	mV/ $^\circ\text{C}$

(1) Pulse Test: Pulse Width ≤ 300 μs , Duty Cycle $\leq 2\%$.

*Typical

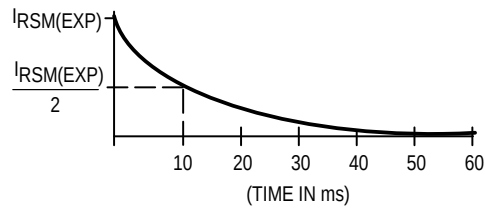
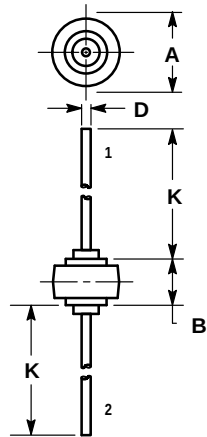


Figure 1. Surge Current Characteristics

PACKAGE DIMENSIONS

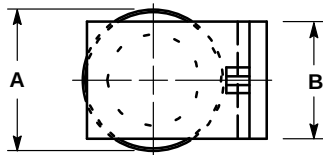


NOTES:
1. CATHODE SYMBOL ON PACKAGE.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	8.43	8.69	0.332	0.342
B	5.94	6.25	0.234	0.246
D	1.27	1.35	0.050	0.053
E	25.15	25.65	0.990	1.010

STYLE 1:
PIN 1. CATHODE
2. ANODE

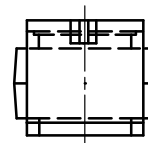
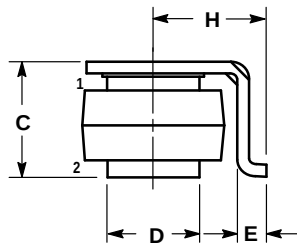
CASE 194-04
ISSUE F



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.330	0.342	8.38	8.69
B	0.270	0.090	6.86	7.37
C	0.275	0.290	6.98	7.37
D	0.218	0.223	5.54	5.66
E	0.060	0.080	1.52	2.03
H	0.255	0.275	6.48	6.98

STYLE 1:
PIN 1. CATHODE
2. ANODE



CASE 421A-01
ISSUE O

Motorola reserves the right to make changes without further notice to any products herein. Motorola makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Motorola assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation consequential or incidental damages. "Typical" parameters which may be provided in Motorola data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. Motorola does not convey any license under its patent rights nor the rights of others. Motorola products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the Motorola product could create a situation where personal injury or death may occur. Should Buyer purchase or use Motorola products for any such unintended or unauthorized application, Buyer shall indemnify and hold Motorola and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that Motorola was negligent regarding the design or manufacture of the part. Motorola and  are registered trademarks of Motorola, Inc. Motorola, Inc. is an Equal Opportunity/Affirmative Action Employer.

Mfax is a trademark of Motorola, Inc.

How to reach us:

USA/EUROPE/Locations Not Listed: Motorola Literature Distribution;
P.O. Box 5405, Denver, Colorado 80217. 303-675-2140 or 1-800-441-2447

JAPAN: Nippon Motorola Ltd.: SPD, Strategic Planning Office, 4-32-1,
Nishi-Gotanda, Shinagawa-ku, Tokyo 141, Japan. 81-3-5487-8488

Mfax™: RMFAX0@email.sps.mot.com – TOUCHTONE 602-244-6609
– US & Canada ONLY 1-800-774-1848

ASIA/PACIFIC: Motorola Semiconductors H.K. Ltd.; 8B Tai Ping Industrial Park,
51 Ting Kok Road, Tai Po, N.T., Hong Kong. 852-26629298

INTERNET: <http://motorola.com/sps>

