

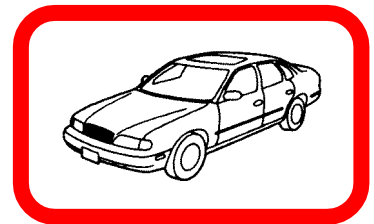
This issue presents power diodes for protection of electronics in automotive products.

Diode for prevent reverse connection

Purpose; circuit protection for battery reverse connection

Recommend ;
 ★Resin Diode ; DSA3A
 ★Glass Diode ; U15E, U05E
 ★ Surface Mount Diode ; DSM3MA

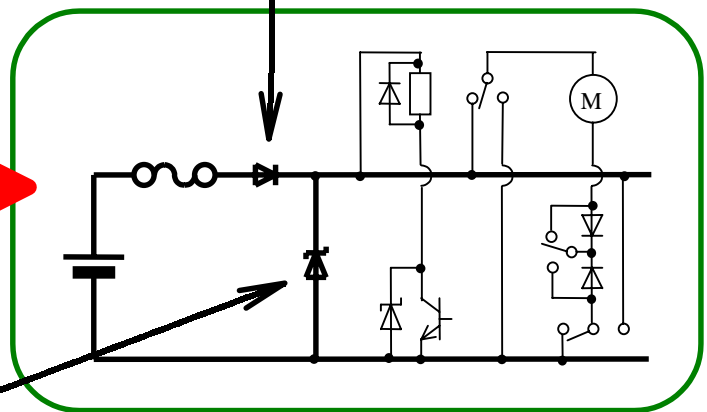
Remark; In case of blowing a fuse during the reverse connection
 -up to rated 10A fuse : recommend above devices
 -15 to 25A fuse : recommend 2 parallel of DSA3A4
 Please contact us for actually use.



Surge Voltage

- 1) Road Dump Surge regulation; JASO A-1
- 2) Ignition Surge, etc

in



Surge Suppressor Diode for Road Dump

Purpose; protection of whole unit

Rode Dump Test

- 1)Condition; JASO regulation: A, A-1
- 2)D.U.T; ZSA5A27/ ZSA5MA27/ ZSH5MA27
- 3)Test circuit; Fig.1

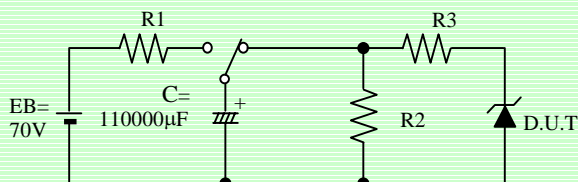
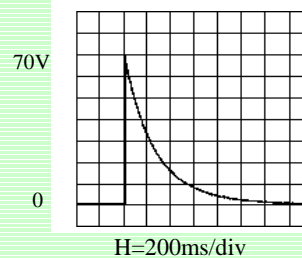
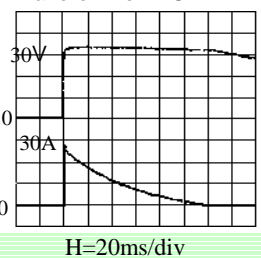


Fig.1

Apply Voltage



Voltage & Current waveform of D.U.T



ZSA5A27

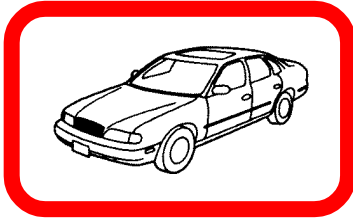


ZSA5MA27



ZSH5MA27





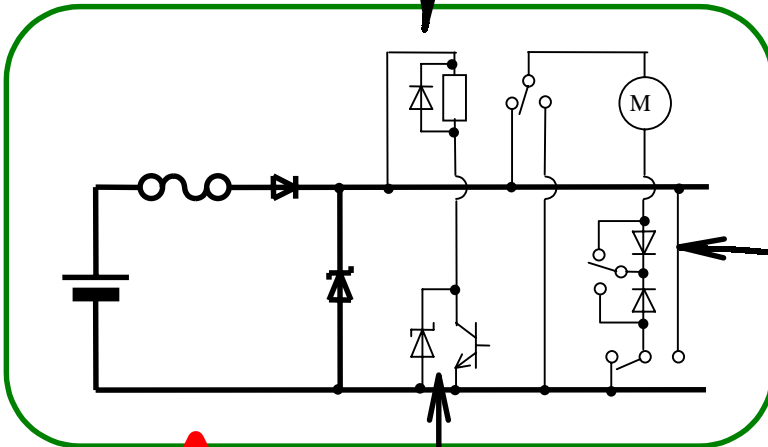
Free-wheeling Diode

Purpose; free wheeling of the energy by inductive load

Recommend ;

- ★ Resin Diode ; DSMID/ DSMISD
- ★ Glass Diode ; V06/ V03, V07/ V08
- ★ Surface Mount Diode ; DSMIMA/ DSM3MA

(Please choose the rated current by load impedance and operating number.)



in

Surge Voltage
 1) Road Dump Surge regulation; JASO A-1
 2) Ignition Surge, etc

Diode for prevent reverse current

Purpose; reverse current prevention during reversible operation of motor, etc.

Recommend ;

- ★ Resin Diode ; DSMID/ DSMISD
DSA3A
- ★ Surface Mount Diode ; DSMIMA/ DSM3MA

(Please consider the motor lock operation to choose the rated current.)

Surge Suppressor Diode

Purpose; protection of device

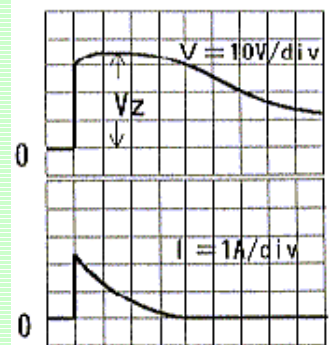
Value of limit and recommendation for load impedance (by JASO A-1 regulation)

Type	Recommend device	R3 (Ω)									Recommend Value(Ω)
		22	20	18	16	15	12	10	8	6	
Axial Lead (Resin)	DAMISA	-	0/11	0/11	2/11	11/11	-	-	-	-	30
	DAMIA	-	-	0/11	1/11	2/11	11/11	-	-	-	30
	DAM3A	-	-	-	-	-	-	-	0/11	1/11	15
	DAM3B	-	-	-	-	-	0/10	0/10	0/10	10/10	15
Surface Mount	DAM1MA	0/10	2/10	8/18	10/10	-	-	-	-	-	40
	DAM3MA	-	-	-	-	-	0/10	0/10	0/10	10/10	15

Test circuit; Fig.1(R3 variable)

< Representative data at Diode of Vz=27V >

Voltage & Current waveform of D.U.T



H=50ms/div