

FR201 THRU FR207

2.0A Axial Leaded Fast Recovery Rectifiers - 50V-1000V

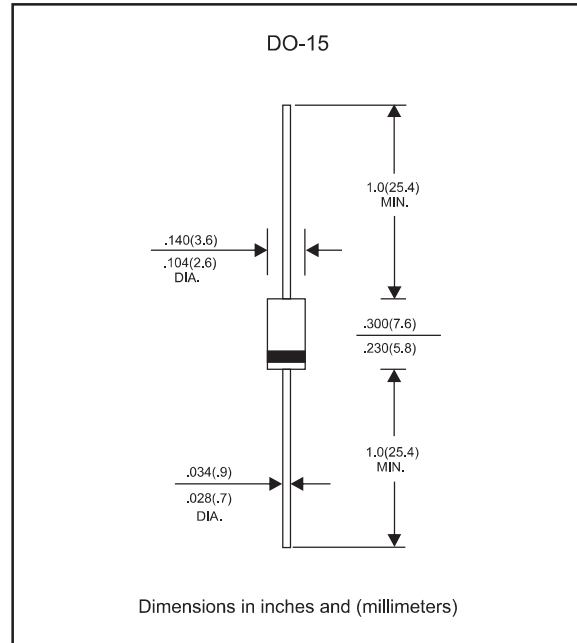
Features

- Axial lead type devices for through hole design.
- High current capability.
- Fast switching for high efficiency.
- High surge current capability.
- Silicon rubber coating chip junction.
- Lead-free parts meet RoHS requirements.
- Suffix "-H" indicates Halogen-free parts, ex. FR201-H.

Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, DO-15
- Lead : Axial leads, solderable per MIL-STD-202, Method 208 guranteed
- Polarity: Color band denotes cathode end
- Mounting Position : Any
- Weight : Approximated 0.40 gram

Package outline



Maximum ratings and Electrical Characteristics (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.2	I_o			2.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			70	A
Reverse current	$V_R = V_{RRM} T_J = 25^{\circ}\text{C}$	I_R			5.0	μA
	$V_R = V_{RRM} T_J = 100^{\circ}\text{C}$				100	
Thermal Resistance	Junction to ambient	$R_{\theta JA}$		50		$^{\circ}\text{C}/\text{W}$
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_J		40		pF
Storage temperature		T_{STG}	-65		+175	$^{\circ}\text{C}$

SYMBOLS	V_{RRM}^{*1} (V)	V_{RMS}^{*2} (V)	V_R^{*3} (V)	V_F^{*4} (V)	t_{rr}^{*5} (ns)	Operating temperature $T_J, (^{\circ}\text{C})$
FR201	50	35	50	1.30	150	-55 to +125
FR202	100	70	100			
FR203	200	140	200			
FR204	400	280	400		250	
FR205	600	420	600			
FR206	800	560	800		500	
FR207	1000	700	1000			

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@ $I_f=2.0\text{A}$

*5 Maximum Reverse recovery time, note 1

Note 1. Reverse recovery time test condition, $I_f=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$

Rating and characteristic curves (FR201 THRU FR207)

FIG.1-TYPICAL FORWARD CHARACTERISTICS

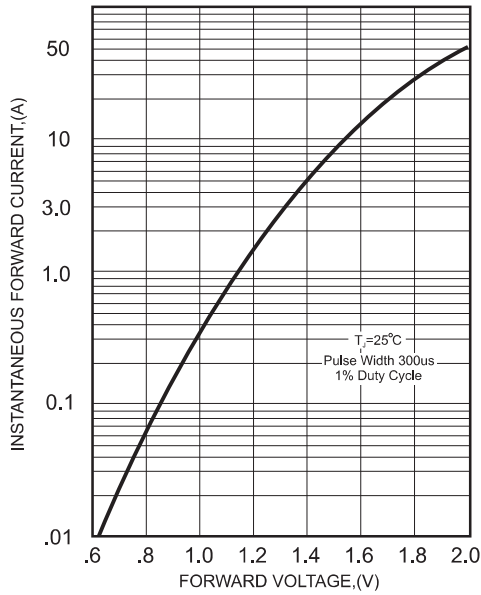


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

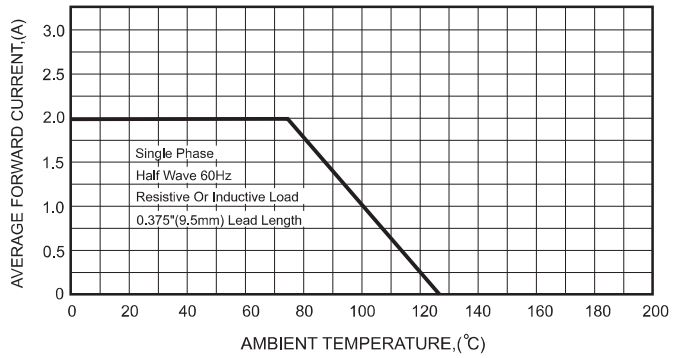


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

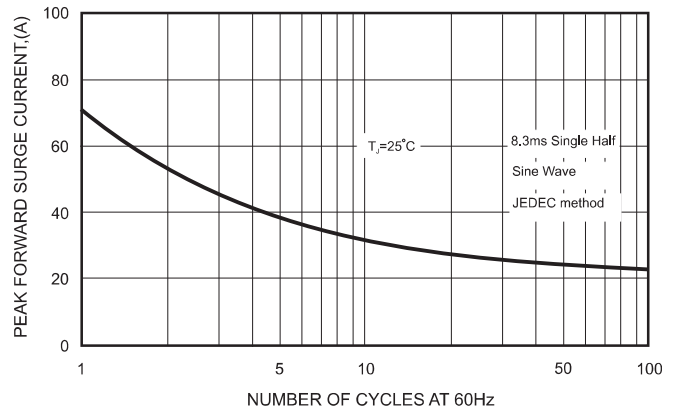
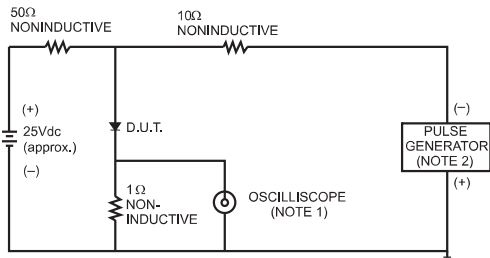


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



- NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm, 22pF.
 2. Rise Time= 10ns max., Source Impedance= 50 ohms.

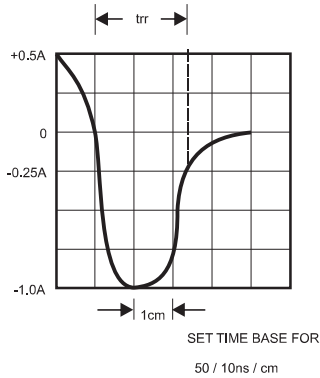
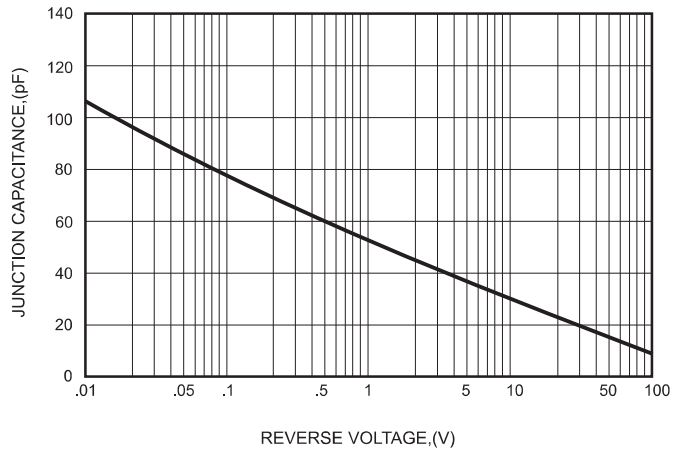




FIG.5-TYPICAL JUNCTION CAPACITANCE



FR201 THRU FR207

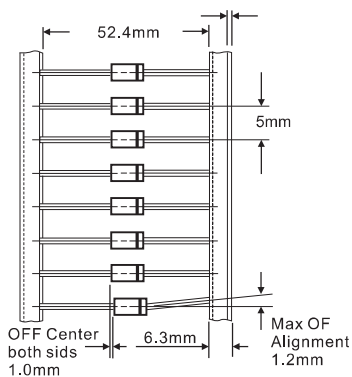
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
FR201	FR201
FR202	FR202
FR203	FR203
FR204	FR204
FR205	FR205
FR206	FR206
FR207	FR207

Taping specifications for AXIAL devices



AMMO PACKING

DEVICE CASE TYPE	Q'TY 1 (PCS / BOX)	INNER BOX SIZE (m/m)	CARTON SIZE (m/m)	Q'TY 2 (PCS / CARTON)	APPROX. CROSS WEIGHT(kg)
DO-15	3,000	260 * 83 * 160	440 * 270 * 340	30,000	14.3