First Semiconductor

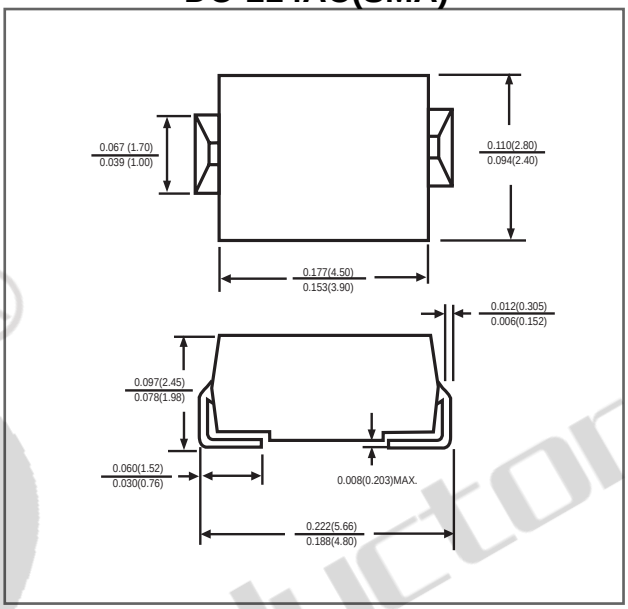
MURS105AG THRU MURS160AG

Chip Silicon Rectifier

1.0A Surface Mount Super Fast Rectifiers - 50-600V

Package outline

DO-214AC(SMA)



Dimensions in inches and (millimeters)

Features

- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low profile surface mounted application in order to optimize board space.
- High current capability.
- Superfast recovery time for switching mode application.
- High surge current capability.
- Glass passivated chip junction.
- Lead-free parts meet RoHS requirments.

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, JEDEC DO-214AC / SMA
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any
- Weight : Approximated 0.07 gram

Maximum ratings (AT T_A=25°C unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	Ambient temperature = 50°C	I_O			1.0	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC methode)	I_{FSM}			30	A
Reverse current	V_R = V_{RRM} T_J = 25°C	I_R			5.0	μA
	V_R = V_{RRM} T_J = 100°C				100	
Thermal resistance	Junction to ambient	$R_{\theta JA}$		110		°C/W
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_J		15		pF
Storage temperature		T_{STG}	-55		+150	°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, (°C)
MURS105AG	50	35	50	1.00	35	-55 to +150
MURS110AG	100	70	100			
MURS115AG	150	105	150			
MURS120AG	200	140	200			
MURS130AG	300	210	300	1.25		
MURS140AG	400	280	400			
MURS150AG	500	350	500	1.70		
MURS160AG	600	420	600			

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@I_F=1.0A

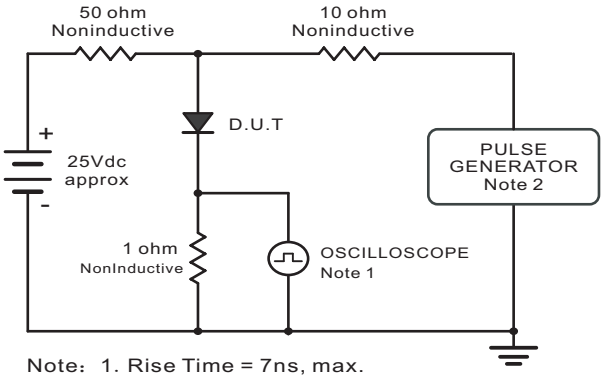
*5 Reverse recovery time, note 1

Note 1. Reverse recovery time test condition, I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

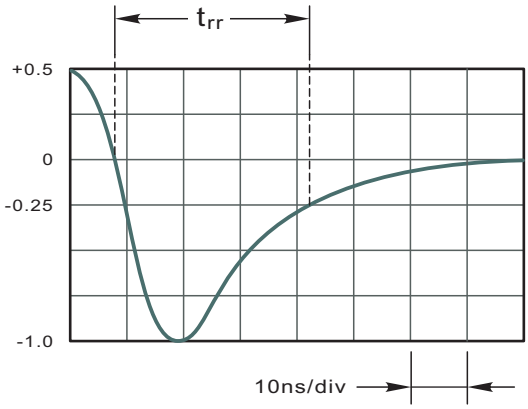
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ypical Characteristics

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



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



Set time Base for 10ns/div

Fig.2 Maximum Average Forward Current Rating

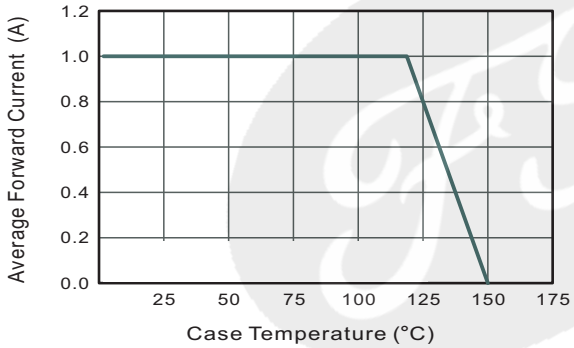


Fig.3 Typical Reverse Characteristics

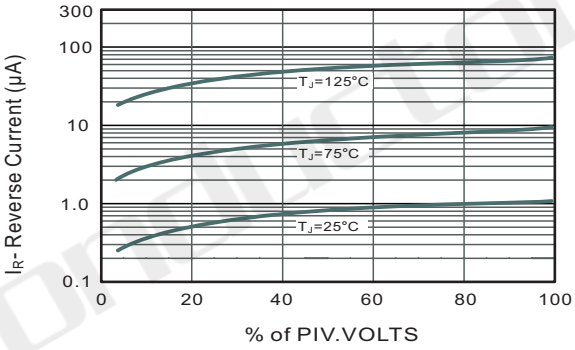


Fig.4 Typical Forward Characteristics

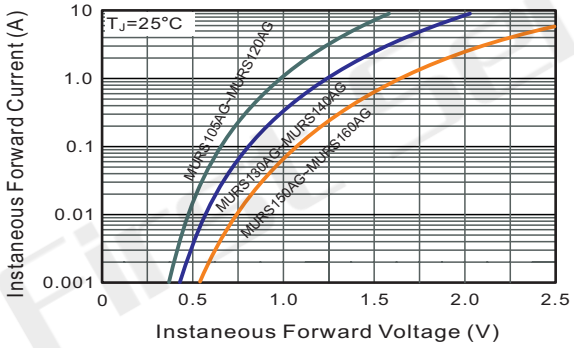


Fig.5 Typical Junction Capacitance

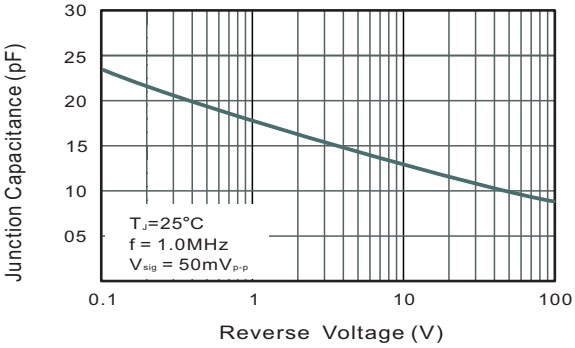


Fig.6 Maximum Non-Repetitive Peak Forward Surage Current

