First Semiconductor

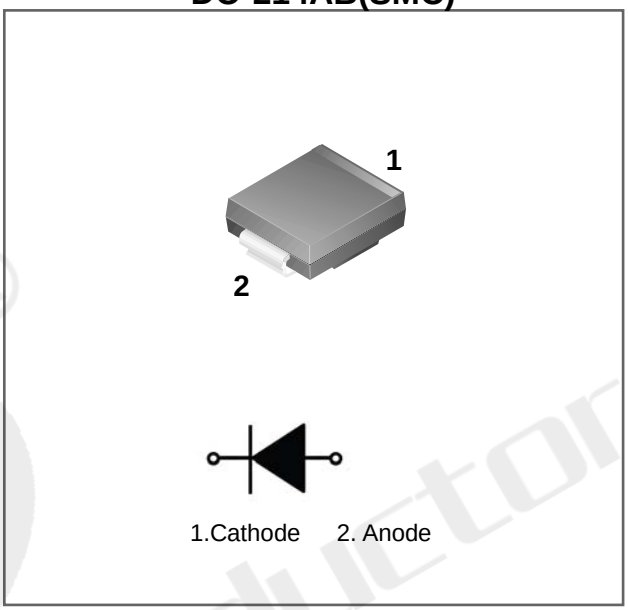
MURS305CG THRU MURS360CG

Chip Silicon Rectifier

3.0A Surface Mount Super Fast Rectifiers - 50-600V

Package outline

DO-214AB(SMC)



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-214AB / SMC
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any
- Weight : Approximated 0.25 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			3.0	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC methode)	I_{FSM}			90	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	$R_{\theta JA}$		40		°C/W
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_J		40		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)
MURS305CG	50	35	50	1.00	35	-55 to +150
MURS310CG	100	70	100			
MURS315CG	150	105	150			
MURS320CG	200	140	200			
MURS330CG	300	210	300	1.25		
MURS340CG	400	280	400			
MURS350CG	500	350	500	1.68		
MURS360CG	600	420	600			

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

*1 Repetitive peak reverse voltage

*2 RMS voltage

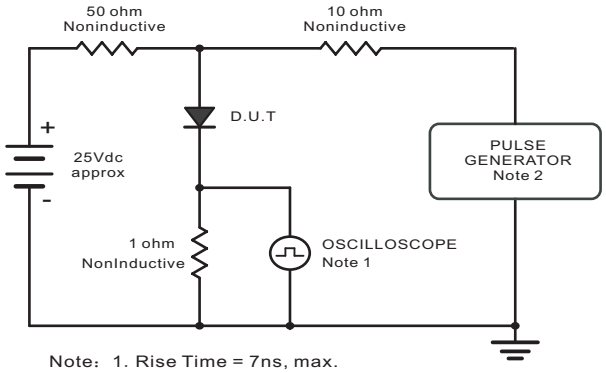
*3 Continuous reverse voltage

*4 Maximum forward voltage@I_F=3.0A

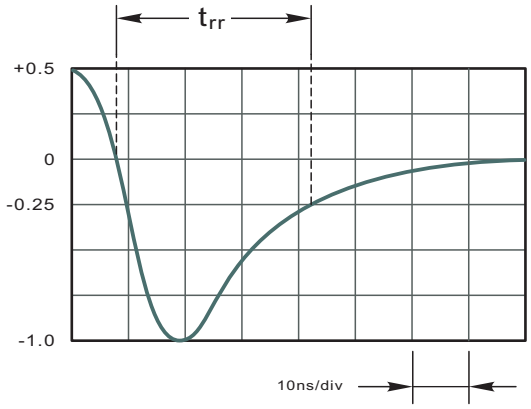
*5 Maximum Reverse recovery time, note 1

Typical 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

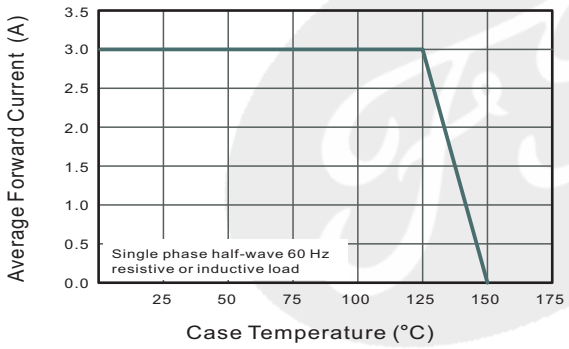


Fig.3 Typical Reverse Characteristics

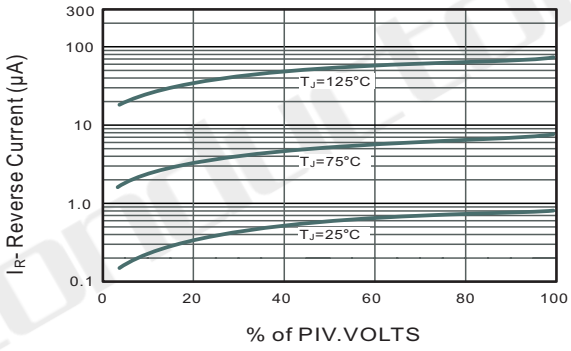


Fig.4 Typical Forward Characteristics

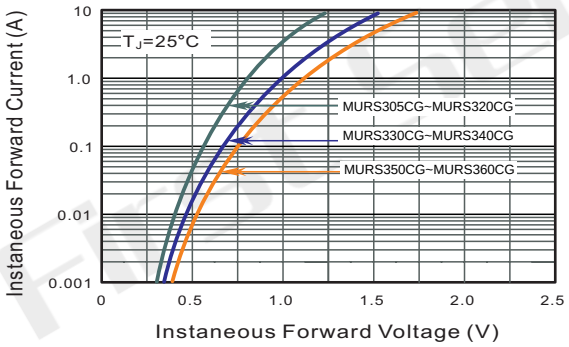


Fig.5 Typical Junction Capacitance

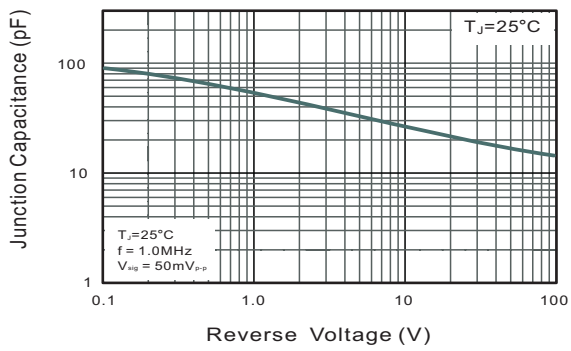
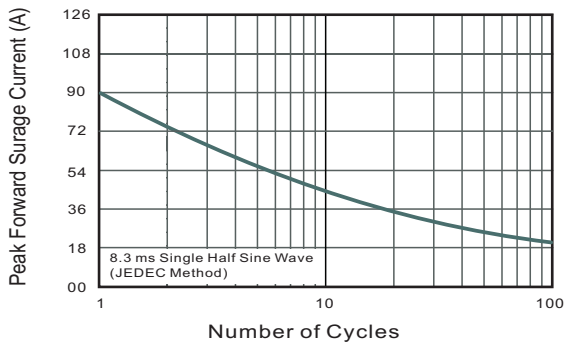
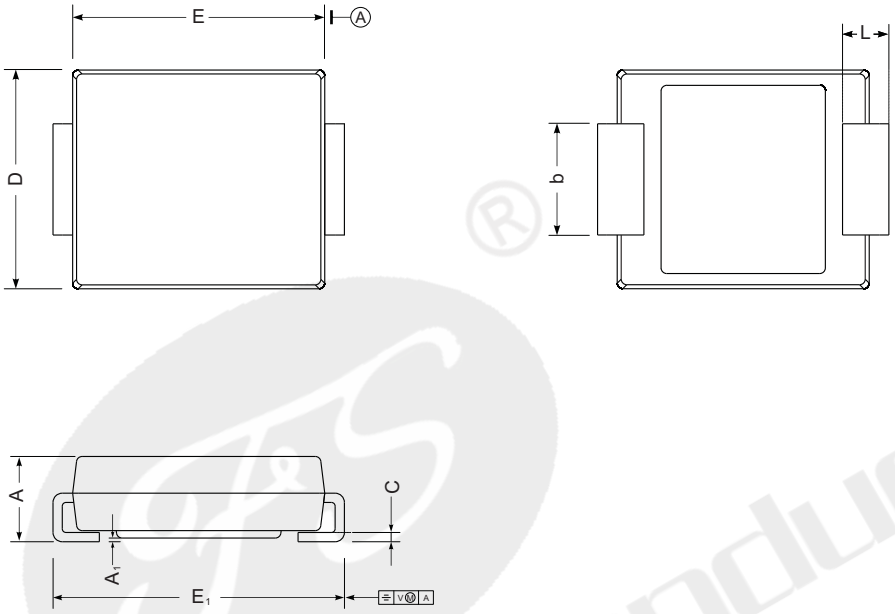


Fig.6 Maximum Non-Repetitive Peak Forward Surage Current



Package Dimension

DO-214AB (SMC)



SMC mechanical data

UNIT		A	E	D	E_1	A_1	C	L	b
mm	max	2.62	7.0	6.2	8.0	0.21	0.31	1.6	3.25
	min	2.00	6.5	5.6	7.6	0.05	0.15	0.9	2.75
mil	max	103	276	244	315	8.3	12	63	128
	min	79	256	220	299	2.0	5.9	35	108

The recommended mounting pad size