DIODE AND RECTIFIER DESIGN KIT
P/N: DIODEKIT101

Switching Diodes, Schottky Diodes and Rectifiers

16 popular values, both SMD and Through hole type.

Pin Through Hole Diodes		
1	1N4001	Rectifier 1A 50V DO-41
2	1N4004	Rectifier 1A 400V DO-41
3	1N4007	Rectifier 1A 1000V DO-41
4	1N5401	Rectifier 3A 100V DO-27
5	1N5404	Rectifier 3A 400V DO-27
6	1N5408	Rectifier 3A 1000V DO-27
7	1N5817	Schottky Diode 1A 20V DO-41
8	1N5819	Schottky Diode 1A 40V DO-41
9	1N5822	Schottky Diode 3A 40V DO-27
10	1N4148	Switching Diode 300mA 100V DO-35
Surface Mount Diodes		
11	S1G	Rectifier 1A 400V SMA
12	S1M	Rectifier 1A 1000V SMA
13	RS1M	Fast Recovery Rectifier 1A 1000V SMA 500nS
14	SS14	Schottky Diode 1A 40V SMA
15	SS24B	Schottky Diode 2A 40V SMB
16	LL4148	Schottky Diode 300mA 100V DO-35

MARCH 14, 2021

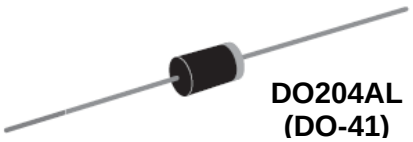
44611 S. Grimmer Blvd., Fremont, CA 94538 USA
510-241-9686

General Purpose Silicon Rectifier

1N4001~1N4007

Features

- Low forward voltage drop
- Low leakage current
- High forward surge current capability
- High temperature soldering guaranteed 260°C/10 seconds /.0375" (9.5mm) lead length
- RoHS and REACH Compliant



DO204AL
(DO-41)

RoHS COMPLIANT

Mechanical Data

Case:	DO-41, transfer molded plastic
Epoxy:	Meets UL 94V-0 flammability rating
Terminals:	Plated axial leads, solderable per MIL-STD-202E, Method 208C
Polarity:	Cathode indicated by color band
Mounting position:	Any
Weight:	0.012 Ounce, 0. 33 gram

Maximum Ratings *(T Ambient=25ºC unless noted otherwise)*

Symbol	Description	1N4001	1N4002	1N4003	1N4004	1N4005	1N4006	1N4007	Unit	Conditions
VRRM	Max Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	**V**	
VRMS	Max RMS Voltage	35	70	140	280	420	560	700	**V**	
VDC	Max DC Blocking Voltage	50	100	200	400	600	800	1000	**V**	
IF(AV)	Max Average Forward Rectified Current	1.0							**A**	.0375" (9.5mm) lead length at TA=75℃
IFSM	Peak Forward Surge Current	30							**A**	8.3ms single half sine-wave (JEDEC)
IR(AV)	Max Full Load Reverse Current	30							**μA**	Full cycle average .0375" (9.5mm) lead length
TJ, TSTG	Operating and Storage Temperature Range	-50 to +150							**℃**	

Electrical Characteristics *(T Ambient=25ºC unless noted otherwise)*

Symbol	Description	1N4001	1N4002	1N4003	1N4004	1N4005	1N4006	1N4007	Unit	Conditions
VF	Max Instantaneous Forward Voltage	1.1							**V**	IF(AV)=1.0A
IR	Max DC Reverse Current at Rated DC Blocking Voltage	5.0							**μA**	TA=25℃
		50								TA=100℃
CJ	Typical Junction Capacitance	15							**pF**	At 1MHz, reversed voltage of 4V
RθJA	Typical Thermal Resistance	50							**℃/W**	**Note 2**

Note:

1. Single phase, half wave, 60Hz, resistive or inductive load. Derate current by 20% for capacitive load
2. Thermal resistance from junction to ambient at .375" (9.5mm) lead length, PCB mounted with copper pad area of 0.2" x 0.2" (5x5mm).

3. Typical Characteristics Curves

1N4001~1N4007

Fig.1- Forward Current Derating Curve

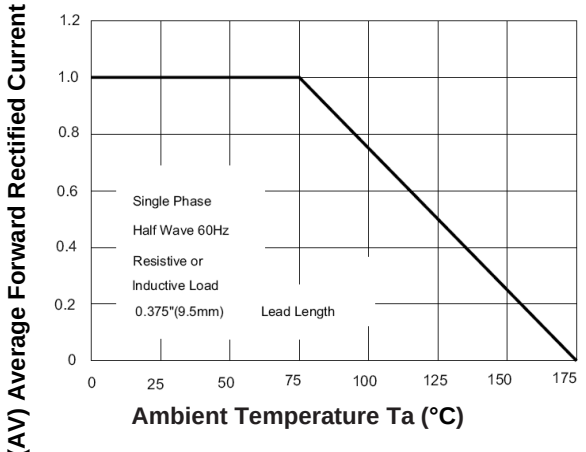


Fig.2- Max. Non-Repetitive Forward Surge Current

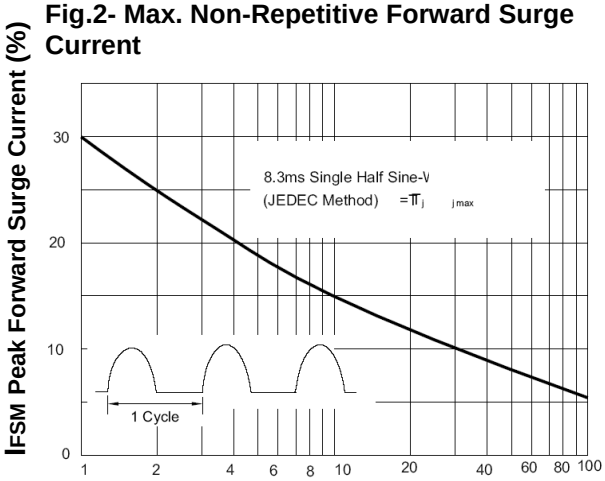


Fig.3- Typical Instantaneous Forward Characteristics

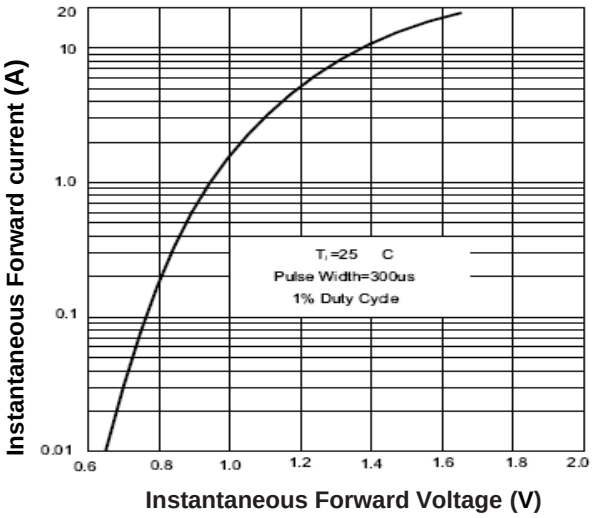


Fig.5- Typical Reverse Characteristics

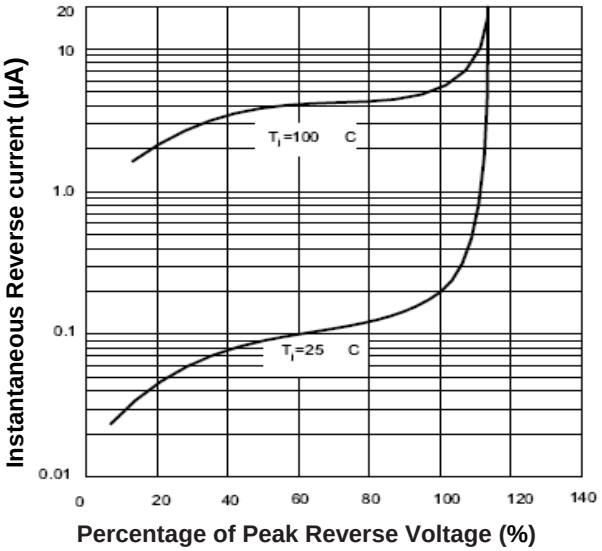
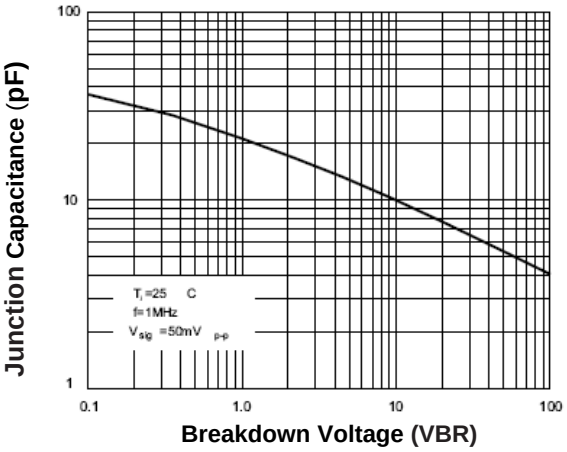
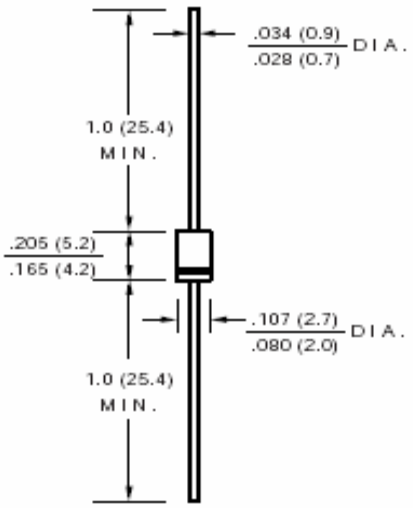


Fig.6- Typical Junction Capacitance



Dimensions in inch (mm)

1N4001~1N4007



DO204AL
(DO-41)

Contact us:

US HEADQUARTER

Lumimax Optoelectronic Technology

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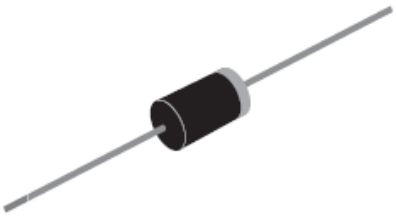
General Purpose Silicon Rectifier

1N5400 ~1N5408

Features

- Low forward voltage drop
- Low leakage current
- High forward surge current capability
- High temperature soldering guaranteed 250°C/10 seconds /.0375" (9.5mm) lead length
- RoHS and REACH Compliant



Mechanical Data

Case:	DO-201AD(DO-27), transfer molded plastic
Epoxy:	Meets UL 94V-0 flammability rating
Terminals:	Plated axial leads, solderable per MIL-STD-202E, Method 208C
Polarity:	Cathode indicated by color band
Mounting position:	Any
Weight:	0.04 Ounce, 1.12 gram

Maximum Ratings *($T_{Ambient}$=25ºC unless noted otherwise)*

Symbol	Description	1N5400	1N5401	1N5402	1N5404	1N5406	1N5407	1N5408	Unit	Conditions
VRRM	Max Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	**V**	
VRMS	Max RMS Voltage	35	70	140	280	420	560	700	**V**	
VDC	Max DC Blocking Voltage	50	100	200	400	600	800	1000	**V**	
IF(AV)	Max Average Forward Rectified Current	3.0							**A**	.0375" (9.5mm) lead length at TA=75℃
IFSM	Peak Forward Surge Current	200							**A**	8.3ms single half sine-wave (JEDEC)
IR(AV)	Max Full Load Reverse Current	10							**μA**	Full cycle average .0375" (9.5mm) lead length
TJ, TSTG	Operating and Storage Temperature Range	-50 to +150							℃	

Electrical Characteristics *($T_{Ambient}$=25ºC unless noted otherwise)*

Symbol	Description	1N5400	1N5401	1N5402	1N5404	1N5406	1N5407	1N5408	Unit	Conditions
V_F	Max Instantaneous Forward Voltage	1.1							**V**	$I_{F(AV)}$=3.0A
I_R	Max DC Reverse Current at Rated DC Blocking Voltage	5							**μA**	TA=25℃
		100								TA=100℃
C_J	Typical Junction Capacitance	50							**pF**	At 1MHz, reversed voltage of 4V
$R_{θ-JA}$	Typical Thermal Resistance	30							**℃/W**	**Note 2**

Note:

4. Single phase, half wave, 60Hz, resistive or inductive load. Derate current by 20% for capacitive load
5. Thermal resistance from junction to ambient at .375" (9.5mm) lead length, PCB mounted with copper pad area of 0.2" x 0.2" (5x5mm).

Typical Characteristics Curves

1N5400 ~1N5408

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

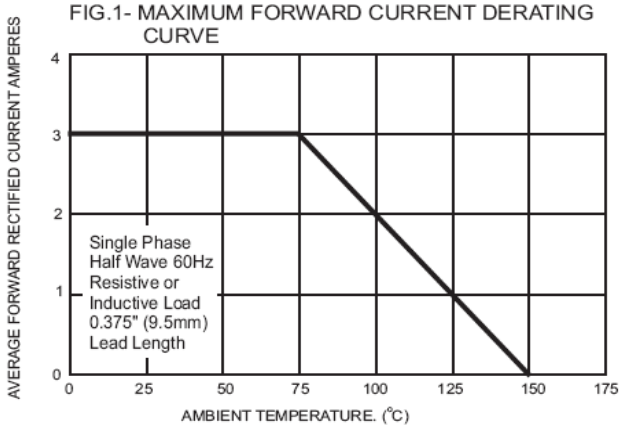


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

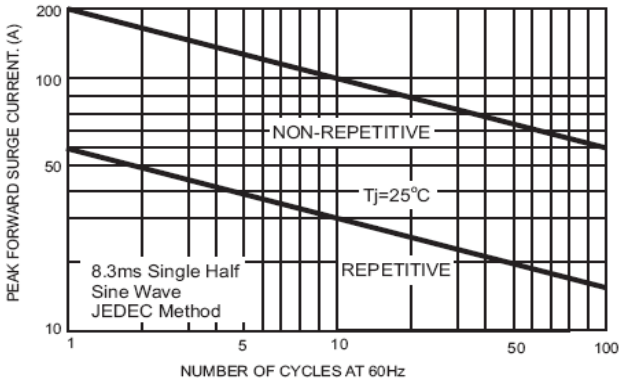


FIG.3- TYPICAL FORWARD CHARACTERISTICS

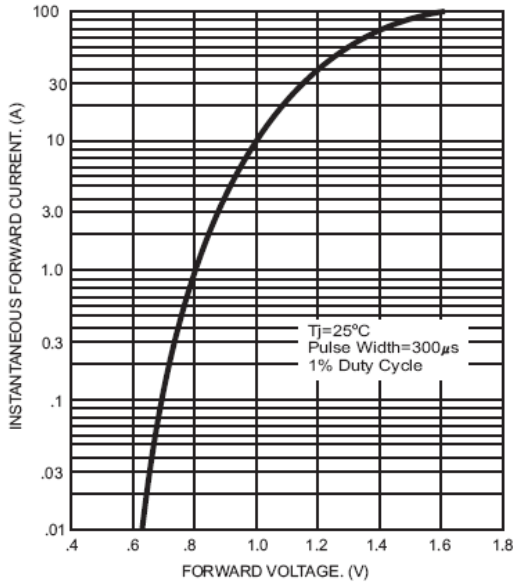


FIG.4- TYPICAL JUNCTION CAPACITANCE

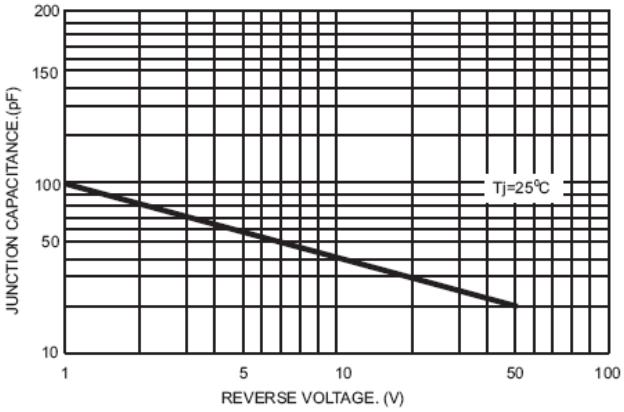
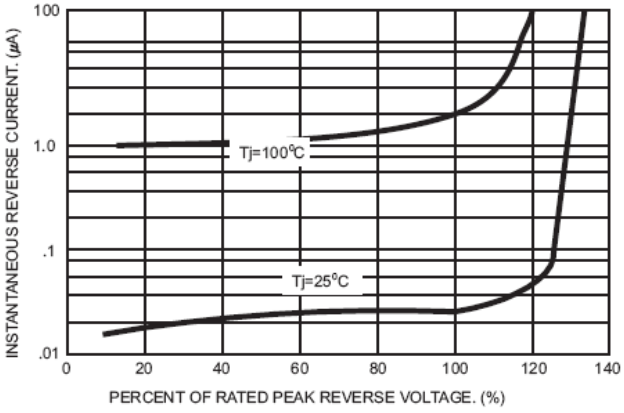
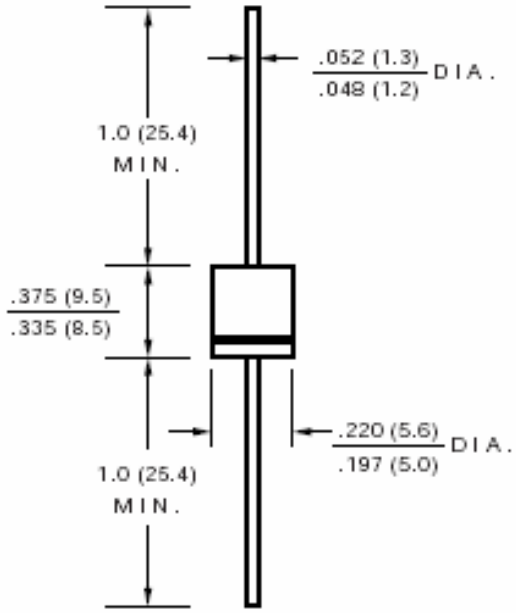


FIG.5- TYPICAL REVERSE CHARACTERISTICS





1N5400 ~1N5408

DO201AD
(DO-27)

Contact us:

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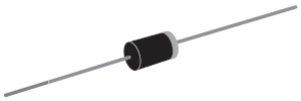
Schottky Barrier Rectifier

1N5817 ~ 1N5819

Features

- Overvoltage protection
- Low forward voltage
- Low power loss, high efficiency
- High surge current capability
- High temperature soldering guaranteed 250℃/10 seconds, 0.375” (9.5mm) lead length
- RoHS and REACH Compliance



DO204AL
(DO-41)

RoHS COMPLIANT

Mechanical Data

Case:	Transfer molded plastic
Polarity	Color band denotes cathode end
Epoxy:	UL94V – 0 rate flame retardant
Lead:	Plated axial lead, solderable per MIL-STD-202E method 208C
Mounting position:	Any
Weight:	0.012 ounce, 0.33 gram

Maximum Ratings *($T_{Ambient}$=25ºC unless noted otherwise)*

Symbol	Description	1N5817	1N5818	1N5819	Unit	Conditions
VRRM	Max Recurrent Peak Reverse Voltage	20	30	40	**V**	
VRMS	Max RMS Voltage	14	21	28	**V**	
VDC	Max DC Blocking Voltage	20	30	40	**V**	
I(AV)	Max Average Forward Rectified Current	1.0			**A**	0.375 (9.5MM) TC=90℃ (Note 1)
IFSM	Peak Forward Surge Current	25			**A**	JEDEC method
TJ,TSTG	Operating and Storage Temperature Range	-55 to +125, -55 to +125			℃	

Electrical Characteristics *($T_{Ambient}$=25ºC unless noted otherwise)*

Symbol	Description	1N5817	1N5818	1N5819	Unit	Conditions
V_F	Max Instantaneous Forward Voltage	0.450 0.750	0.550 0.875	0.600 0.900	**V**	1.0A 3.0A
I_R	Max DC Reverse Current at Rated DC Blocking Voltage	1.0			**mA**	T_A=25℃
		10				T_A=100℃
$R_{\theta-JA}$	Typical Thermal Resistance	50			℃/W	**Note 1**
C_J	Typical Junction Capacitance	110			pF	**Measured at 1.0MHz / 4.0V**

Note:

6. Thermal resistance from junction to ambient with 0.375” (9.5mm) lead length, PCB mounted, with 1.5” x 1.5” (38cm x 38cm) copper pads

Typical Characteristics Curves

FIG. 1 - FORWARD CURRENT DERATING CURVE

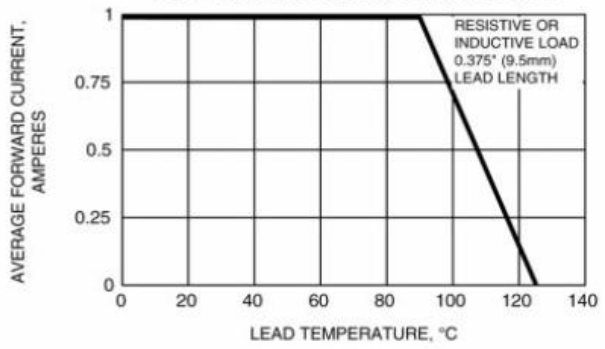


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

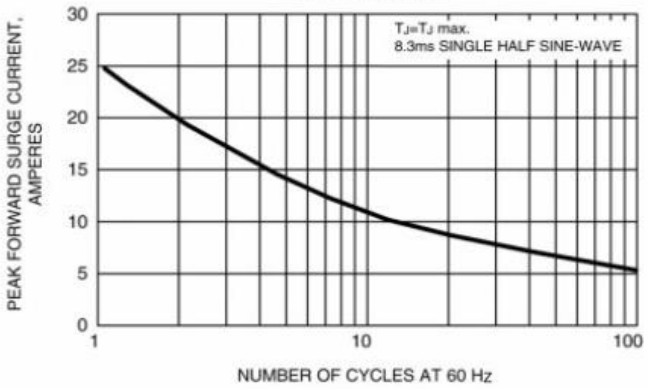


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

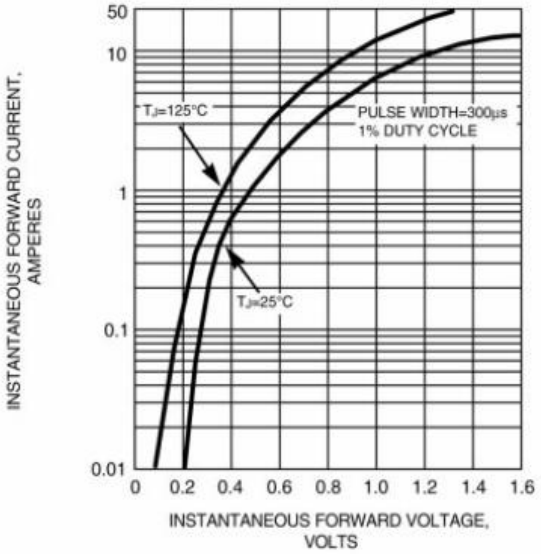


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

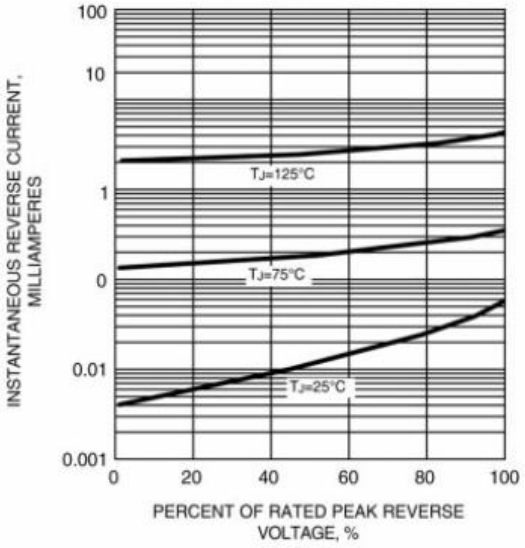


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

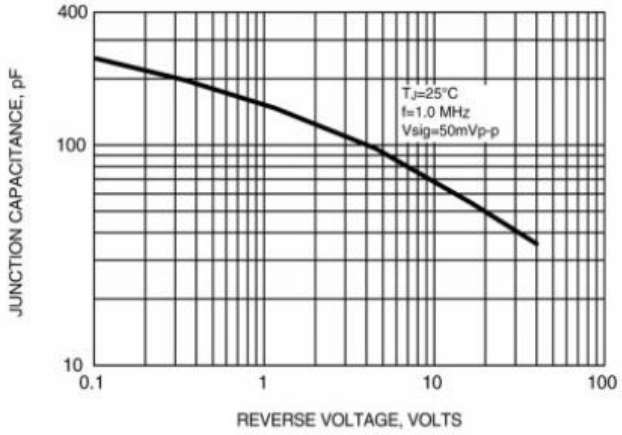
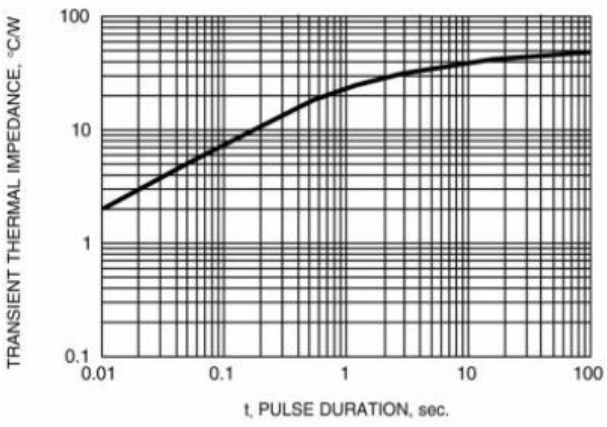
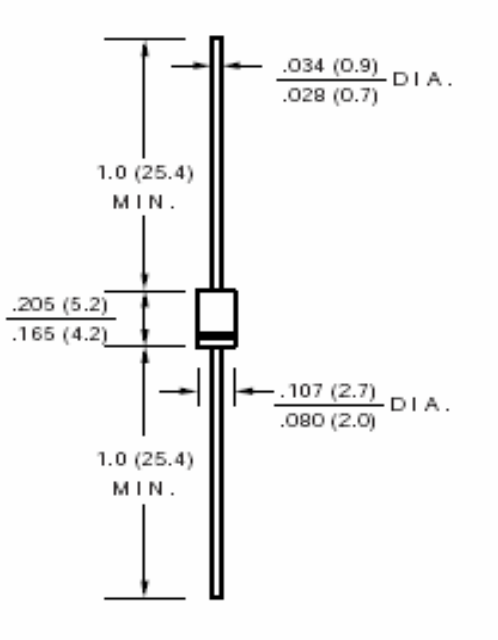


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE



Dimensions in inches (mm)

1N5817 ~ 1N5819



DO204AL
(DO-41)

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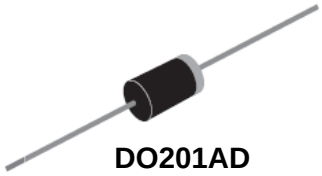
Schottky Barrier Rectifier

1N5820 ~1N5822

Features

- Fast switching speed
- Low forward voltage
- Low power loss, high efficiency
- High surge current capability
- High temperature soldering guaranteed: 260℃/10 seconds, 0.375" (9.5mm) lead length
- RoHS and REACH Compliance



DO201AD
(DO-27)

RoHS COMPLIANT

Mechanical Data

Case:	Transfer molded plastic
Polarity	Color band denotes cathode end
Epoxy:	UL94V – 0 rate flame retardant
Lead:	Plated axial lead, solderable per MIL-STD-202E method 208C
Mounting position:	Any
Weight:	0.042 ounce, 1.19 gram

Maximum Ratings *(T Ambient=25ºC unless noted otherwise)*

Symbol	Description	1N5820	1N5821	1N5822	Unit	Conditions
VRRM	Max Recurrent Peak Reverse Voltage	20	30	40	V	
VRMS	Max RMS Voltage	14	21	28	V	
VDC	Max DC Blocking Voltage	20	30	40	V	
I(AV)	Max Average Forward Rectified Current	3.0			A	0.375 (9.5MM) TL=95℃
IFSM	Peak Forward Surge Current	80			A	JEDEC method
TJ,TSTG	Operating and Storage Temperature Range	-55 to +125, -55 to +125			℃	

Electrical Characteristics *(T Ambient=25ºC unless noted otherwise)*

Symbol	Description	1N5820	1N5821	1N5822	Unit	Conditions
V_F	Max Instantaneous Forward Voltage	0.475 0.850	0.500 0.900	0.525 0.950	V	3.0A 9.4A
I_R	Max DC Reverse Current at Rated DC Blocking Voltage	2.0			mA	T_A=25℃
		20				T_A=100℃
$R_{\theta-JA}$	Typical Thermal Resistance	40			℃/W	Note 1
C_J	Typical Junction Capacitance	250			pF	Measured at 1.0MHz / 4.0V

Note:

7. Thermal resistance from junction to ambient with 0.375" (9.5mm) lead length, PCB mounted, with 2.5" x 2.5" (63.5cm x 63.5cm) copper pads

RATINGS AND CHARACTERISTIC CURVES 1N5820 ~1N5822

FIG.1 - FORWARD CURRENT DERATING CURVE

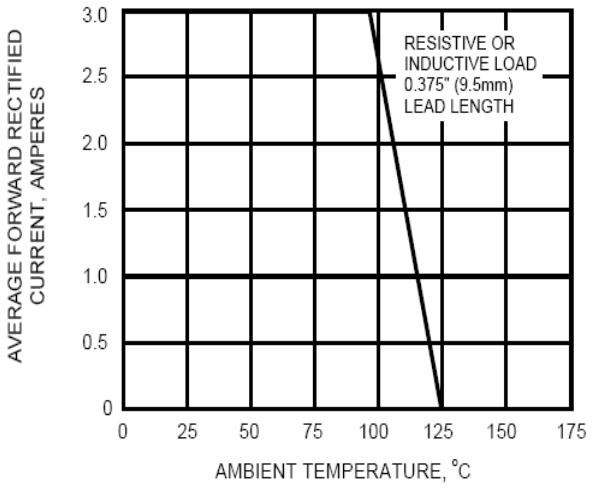


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

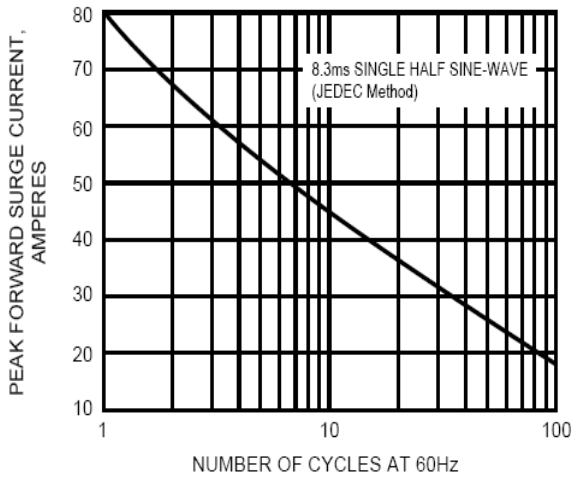


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

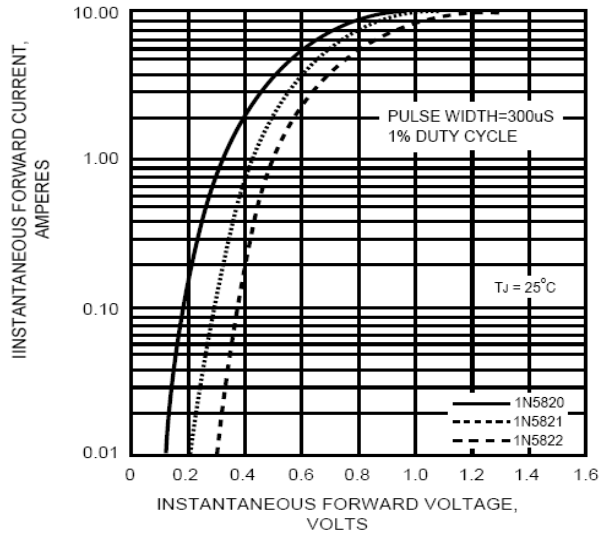


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

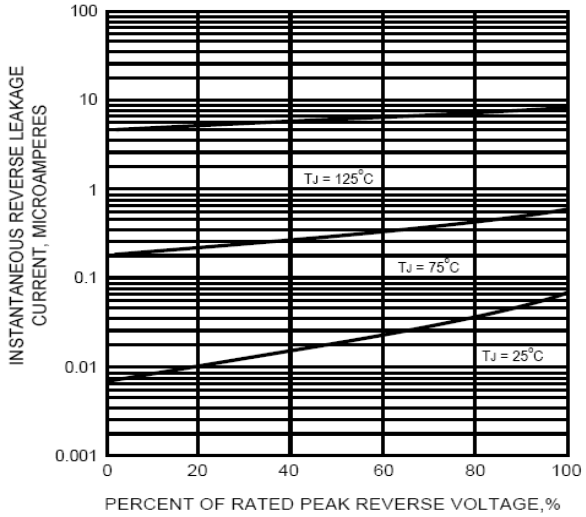


FIG.5 - TYPICAL JUNCTION CAPACITANCE

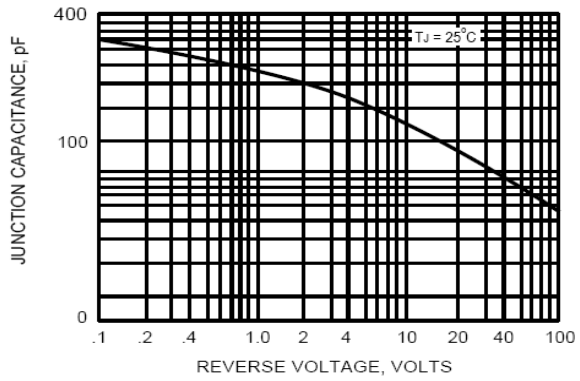
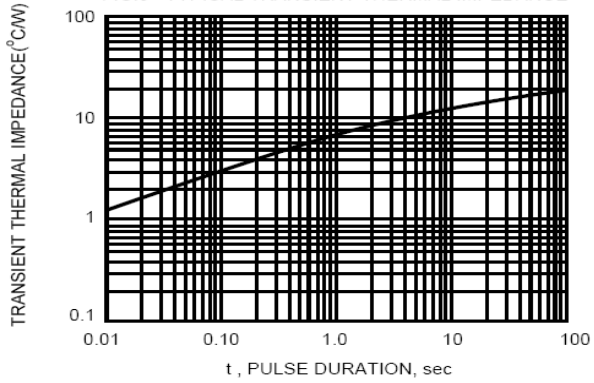
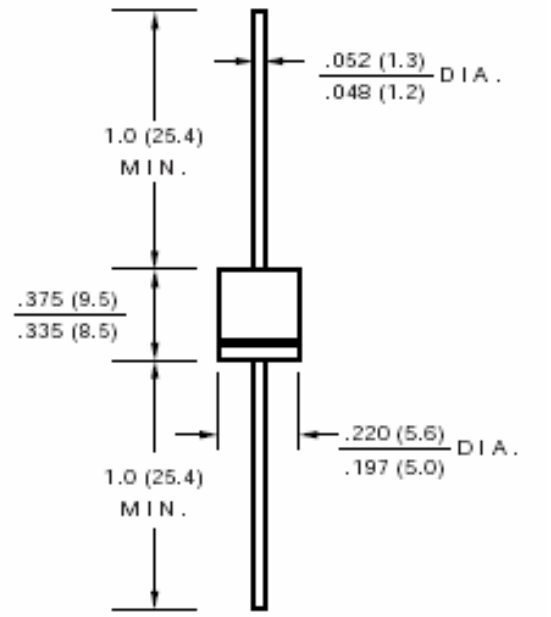


FIG.6 - TYPICAL TRANSIENT THERMAL IMPEDANCE



Dimensions in inches (mm)

1N5820 ~1N5822



DO201AD
(DO-27)

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Tel: 510-241-9686

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Switching Diode

1N4148

Features

- Silicon Expitaxial Planer Diode
- Fast Switching speed
- General purpose switching application
- Also available in the SOD-123 package as the 1N4148W, and the Quadro MELF as the LS4148, and the Mini-MELF as the LL4148

RoHS COMPLIANT

DO-35

Mechanical Data

Case:	DO-35 Glass case
Terminals:	Plated axial leads, solderable per MIL-STD-202E, Method 208C
Polarity:	Color band denotes cathode end
Mounting position:	Any
Weight:	0.0045 Ounce, 0.13 gram, approx

Maximum Ratings *($T_{Ambient}$=25ºC unless noted otherwise)*

Symbol	Description	1N4148	Unit	Conditions
V_{RRM}	Non-Repetitive Peak Reverse Voltage	100	V	
V_{RMS}	Max Repetitive Peak Reverse Voltage	75	V	
I_{FM}	Forward Continuous Current	300	mA	
T_{rr}	Max Reverse Recovery Time	4	nS	IF= 10mA, IR=10mA, IRR=1mA,RL=100Ω
I_{FSM}	Non-Repetitive Peak Forward Surge Current	4	Amps	T=1.0μS, T=1.0S
P_{TOT}	Power dissipation (Note1)	500	mW	
T_J, T_{STG}	Operating and Storage Temperature	-65 to +175	℃	

Electrical Characteristics *($T_{Ambient}$=25ºC unless noted otherwise)*

Symbol	Description	1N4148	Unit	Conditions
V_F	Max Instantaneous Forward Voltage	1.0	V	10mA
I_R	Max DC Reverse Current at Rated DC Blocking Voltage	5.0	μA	VR=75V
		50		VR=20V,TJ=150℃
		25		VR=20V
C_J	Typical Junction Capacitance	4.0	pF	Vf=1V, f=1MHZ
$R_{θ-JA}$	Typical Thermal Resistance	350	℃/W	

Note:

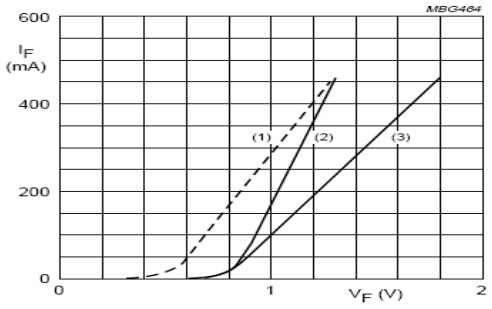
1. Valid provided leads at a distance of 0.31” (8mm) from case are kept at ambient temperature

Typical Characteristics Curves

1N4148

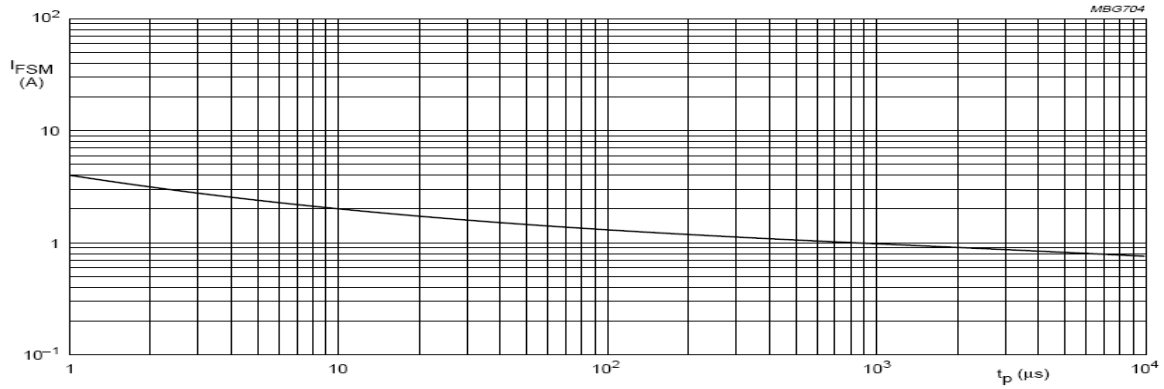
Device mounted on an FR4 printed-circuit board; lead length 10 mm.

Fig.2 Maximum permissible continuous forward current as a function of ambient temperature.



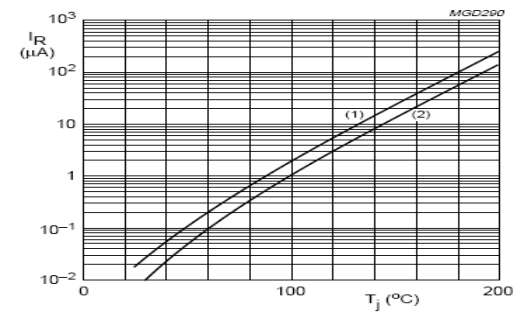
(1) T_j = 175 °C; typical values.
(2) T_j = 25 °C; typical values.
(3) T_j = 25 °C; maximum values.

Fig.3 Forward current as a function of forward voltage.



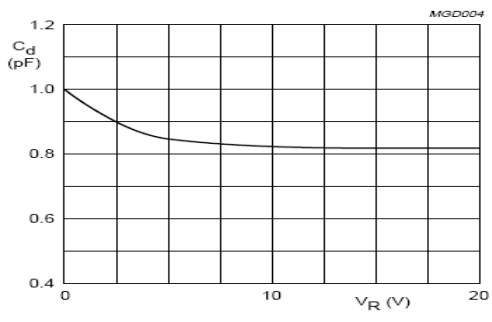
Based on square wave currents.
T_j = 25 °C prior to surge.

Fig.4 Maximum permissible non-repetitive peak forward current as a function of pulse duration.



(1) V_R = 75 V; typical values.
(2) V_R = 20 V; typical values.

Fig.5 Reverse current as a function of junction temperature.

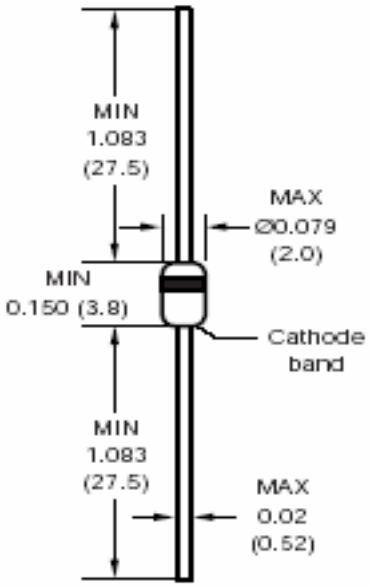


f = 1 MHz; T_j = 25 °C.

Fig.6 Diode capacitance as a function of reverse voltage; typical values.

Dimensions in inch (mm)

1N4148



DO-35

Contact us:

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Surface Mount Glass Passivated Rectifier S1A ~S1M

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Built-in strain relief, ideal for automated placement
- Glass passivated chip junction
- High temperature soldering guaranteed 260°C/ 10 seconds
- RoHS and REACH compliance

DO-214AC (SMA)

RoHS COMPLIANT

Mechanical Data

Case:	DO-214AC, transfer molded plastic
Epoxy:	Meets UL 94V-0 flammability rating
Terminals:	Solder plated, solderable per MIL-STD 750, Method 2026
Polarity:	Cathode indicated by color band
Mounting position:	Any
Weight:	0.002 Ounce, 0.064 gram

Maximum Ratings *(T Ambient=25ºC unless noted otherwise)*

Symbol	Description	S1A	S1B	S1D	S1G	S1J	S1K	S1M	Unit	Conditions
VRRM	Max Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	**V**	
VRMS	Max RMS Voltage	35	70	140	280	420	560	700	**V**	
VDC	Max DC Blocking Voltage	50	100	200	400	600	800	1000	**V**	
I(AV)	Max Average Forward Rectified Current	1.0							**A**	TA=105℃
IFSM	Peak Forward Surge Current	40					30		**A**	8.3ms single half sine-wave (JEDEC)
trr	Maximum Reverse Recovery Time	1.8							**μS**	IF=0.5A, IR=1.0A, IRR=0.25A
TJ, TSTG	Operating and Storage Temperature Range	-55 to +150							℃	

Electrical Characteristics *(T Ambient=25ºC unless noted otherwise)*

Symbol	Description	S1A	S1B	S1D	S1G	S1J	S1K	S1M	Unit	Conditions
V_F	Max Instantaneous Forward Voltage	1.1							**V**	$I_{F(AV)}$= 1.0A
I_R	Max DC Reverse Current at Rated DC Blocking Voltage	1.0					5.0		**μA**	TA=25℃
		50								TA=125℃
C_J	Typical Junction Capacitance	12							**pF**	At 1MHz, reversed voltage of 4V
$R_{\theta\text{-}JA}$	Typical Thermal Resistance	75					85		**℃/W**	Note 2
$R_{\theta\text{-}JL}$		27					30			

Note:

8. Single phase, half wave, 60Hz, resistive or inductive load. Derate current by 20% for capacitive load

9. Thermal resistance from junction to ambient at .375" (9.5mm) lead length, PCB mounted

Typical Characteristics Curves

S1A ~S1M

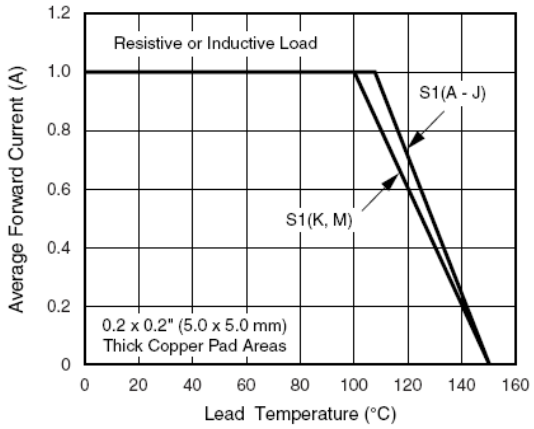


Figure 1. Forward Current Derating Curve

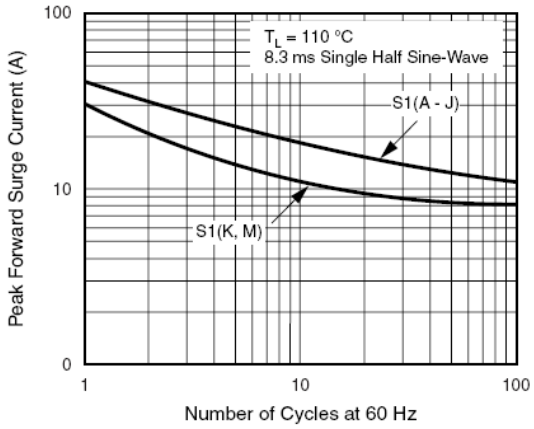


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

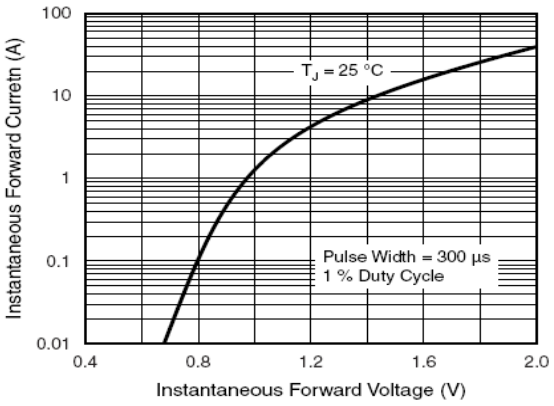


Figure 3. Typical Instantaneous Forward Characteristics

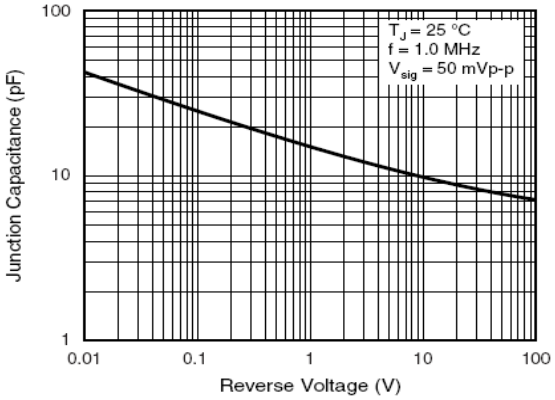


Figure 5. Typical Junction Capacitance

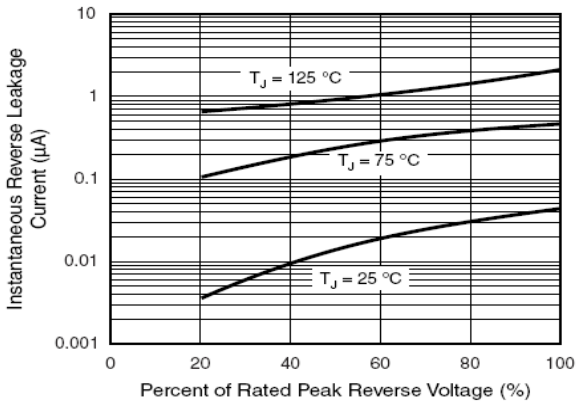


Figure 4. Typical Reverse Leakage Characteristics

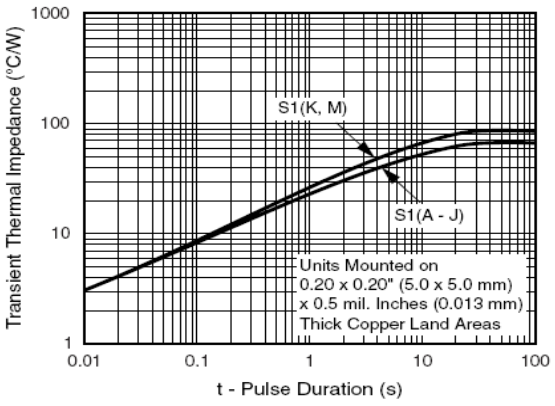
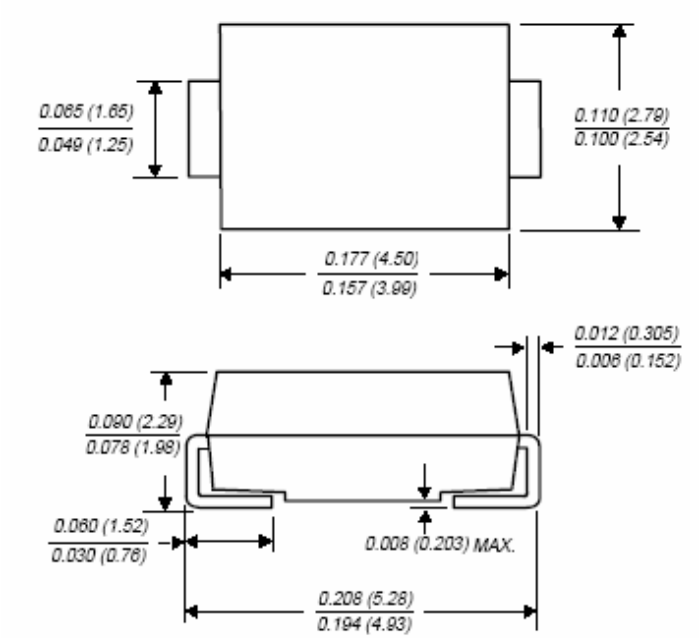


Figure 6. Typical Transient Thermal Impedance

Dimensions in inch (mm)

S1A ~S1M



Dimensions in inches and (millimeters)

DO-214AC(SMA)

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Surface Mount Fast Recovery Rectifier RS1A~RS1M

Features

- Plastic package has UL flammability classification 94V-0
- Glass passivated chip junction
- Built in strain relief
- Fast switching speed for high efficiency
- High temperature soldering guaranteed: 260°C/10 seconds, 0.375" (9.5mm) lead length
- RoHS and REACH Compliance

DO-214AC (SMA)

Mechanical Data

Case:	JEDEC DO-214AC transfer molded plastic
Polarity:	Color band denots cathode end
Terminals:	Solder plated, solderable per MIL-STD-750 method 2026
Weight:	0.002 ounce, 0.064 gram

Maximum Ratings *(T Ambient=25ºC unless noted otherwise)*

Symbol	Description	RS1A	RS1B	RS1D	RS1G	RS1H	RS1K	RS1M	Unit	Conditions
VRRM	Max Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	**V**	
VRMS	Max RMS Voltage	35	70	140	280	420	560	700	**V**	
VDC	Max DC Blocking Voltage	50	100	200	400	600	800	1000	**V**	
I(AV)	Max Average Forward Rectified Current	1.0							**A**	TL=100℃
IFSM	Peak Forward Surge Current	30							**A**	JEDEC method
TJ,TSTG	Operating and Storage Temperature Range	-55 to +150, -55 to +150							℃	
RθJA	Typical Thermal Resistance	105							℃/W	Note 2
RθJL		32								

Electrical Characteristics *(T Ambient=25ºC unless noted otherwise)*

Symbol	Description	RS1A	RS1B	RS1D	RS1G	RS1J	RS1K	RS1M	Unit	Conditions
VF	Max Instantaneous Forward Voltage	1.3							**V**	1.0A
IR	Max DC Reverse Current at Rated DC Blocking Voltage	5.0							**μA**	TA=25℃
		50							**mA**	TA=125℃
TRR	Maximum reverse recovery time	150		250		500			**nS**	Note 1
CJ	Typical Junction Capacitance	10			7				**pF**	Measured at 1.0MHz / 4.0V

Note:

10. Reverse recovery test conditions: I_F= 0.5A, I_R=1.0A, I_{RR} = 0.25A

11. Thermal resistance from junction to ambient and from junction to lead mounted on PCB with 0.2" x 0.2" (5.0mm x 5.0mm) copper pad areas.

RATINGS AND CHARACTERISTIC CURVES RS1A ~ RS1M

FIG. 1 - FORWARD CURRENT DERATING CURVE

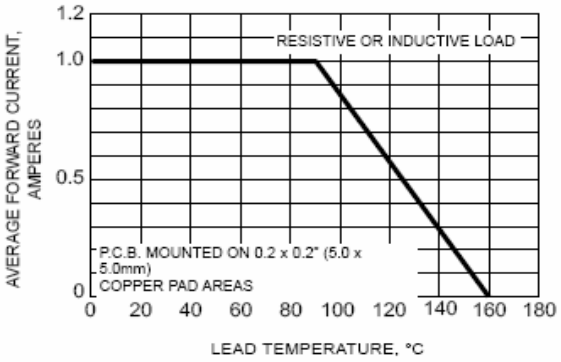


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

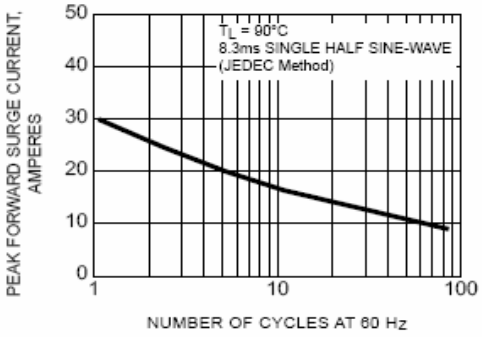


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

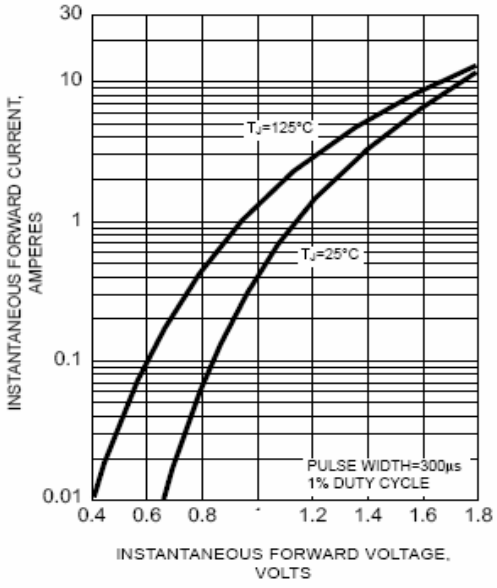


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

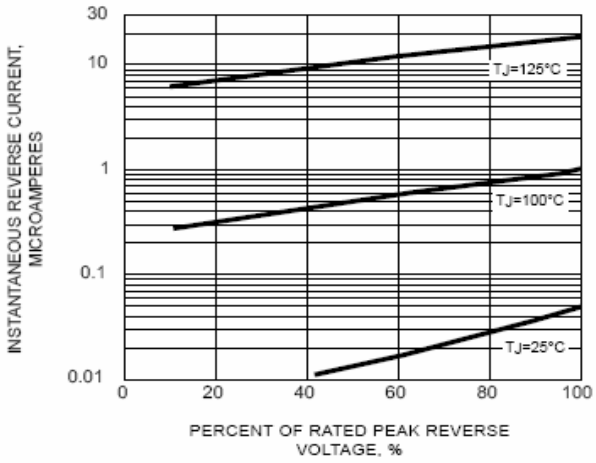


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

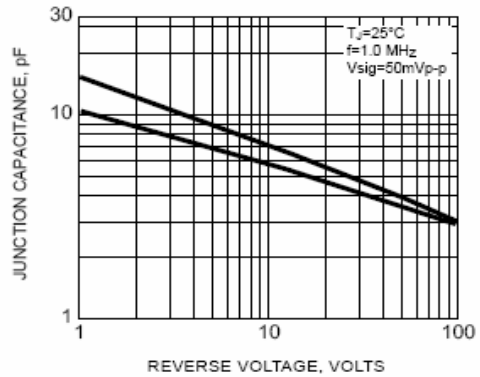
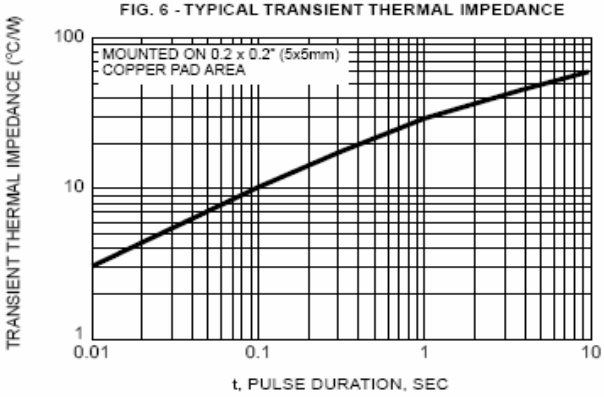
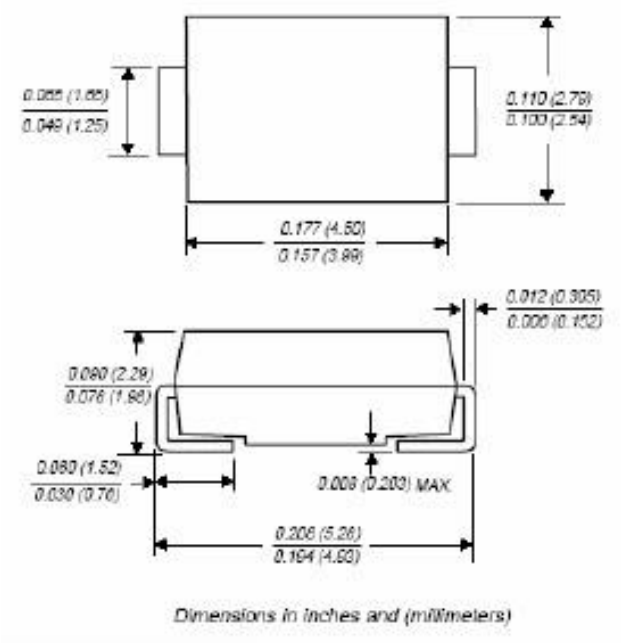


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE



Dimensions in inches (mm) **RS1A~RS1M**



DO-214AC (SMA)

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Surface Mount Schottky Rectifier

SS22B~SS210B

Features

- Low Forward Voltage Drop
- Ideal for surface mounted applications
- High Surge Current Capability
- High temperature soldering guaranteed 260°C/ 10 seconds
- RoHS and REACH compliance

SMB

RoHS COMPLIANT

Mechanical Data

Case:	Transfer molded plastic
Epoxy:	Meets UL 94V-0 flammability rating
Terminals:	Solder plated, solderable per MIL-STD 750, Method 2026
Polarity:	Cathode indicated by color band
Mounting position:	Any
Weight:	0.093 gram

Maximum Ratings *($T_{Ambient}$=25ºC unless noted otherwise)*

Symbol	Description	SS22B	SS23B	SS24B	SS25B	SS26B	SS28B	SS210B	Unit	Conditions
VRRM	Max Recurrent Peak Reverse Voltage	20	30	40	50	60	80	100	**V**	
VRMS	Max RMS Voltage	14	21	28	35	42	56	70	**V**	
VDC	Max DC Blocking Voltage	20	30	40	50	60	80	100	**V**	
Io	Max Average Forward Rectified Current at Ambient Temperature	2.0							**A**	
IFSM	Peak Forward Surge Current	50							**A**	8.3ms single half sine-wave
TJ, TSTG	Operating and Storage Temperature Range	-55 to +125							℃	

Electrical Characteristics *($T_{Ambient}$=25ºC unless noted otherwise)*

Symbol	Description	SS22B	SS23B	SS24B	SS25B	SS26B	SS28B	SS210B	Unit	Conditions
V_F	Max Instantaneous Forward Voltage	0.6			0.75		0.85		**V**	$I_{F(AV)}$= 1.0A
I_R	Max DC Reverse Current at Rated DC Blocking Voltage	0.5							**mA**	TA=25℃
		10								TA=100℃
C_J	Typical Junction Capacitance	110					20		**pF**	At 1MHz, reversed voltage of 4V
$R_{θ-JA}$	Typical Thermal Resistance	75							**℃/W**	
$R_{θ-JL}$		17								

Note:

12. Single phase, half wave, 60Hz, resistive or inductive load. Derate current by 20% for capacitive load

Typical Characteristics Curves

SS22B~SS210B

FIG.1–TYPICAL FORWARD CURRENT DERATING CURVE

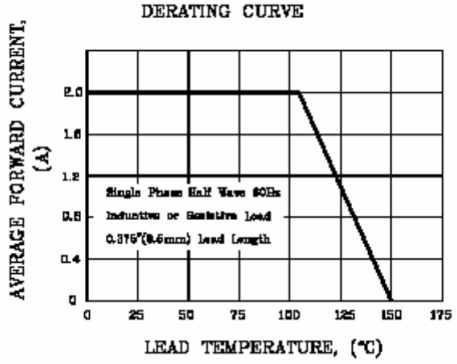


FIG.2–MAXIMUM NON–REPETITIVE PEAK FORWARD SURGE CURRENT

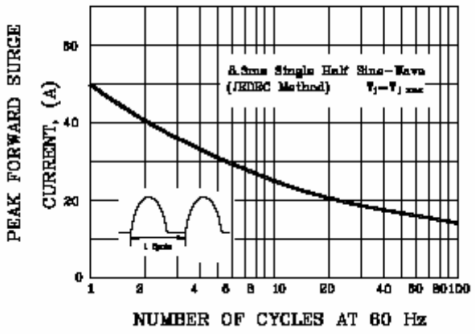


FIG.3–TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

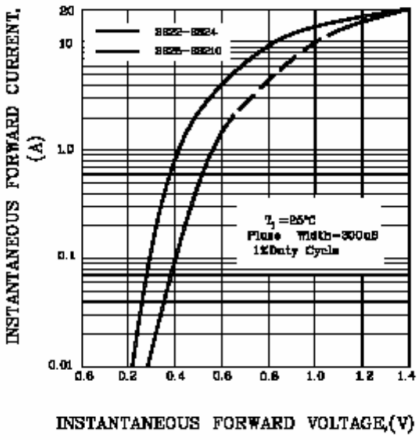
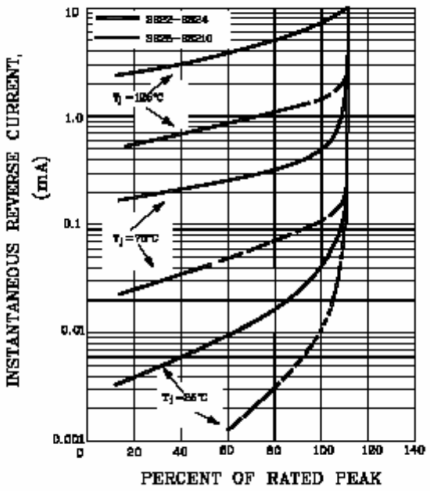
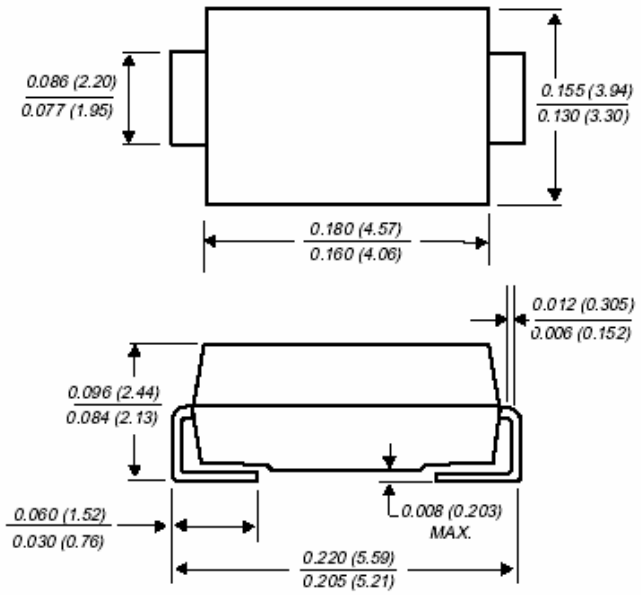


FIG.4–TYPICAL REVERSE CHARACTERISTICS



Dimensions in inch (mm)

SS22B~SS210B



Dimensions in inches and (millimeters)

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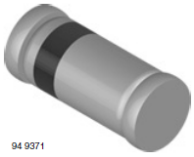
Switching Diode

LL4148



RoHS COMPLIANT

Features

- Silicon Expitaxial Planer Diode
- Fast Switching Speed
- General Purpose Switching Applications
- Also available in the SOD-123 packages as the 1N4148W,
- And the Quadro MELF as the LS4148, and the DO-35 as the 1N4148
- RoHS and REACH Compliance

Mechanical Data

Case:	Mini-Melf
Pingout:	
Terminals:	Solderable per MIL-STD-202E, Method 208C
Polarity:	Color band denotes cathode end
Mounting position:	Any
Weight:	0.00175 Ounce, 0.05 gram, approx

Maximum Ratings *(T Ambient=25ºC unless noted otherwise)*

Symbol	Description	LL4148	Unit	Conditions
VRRM	Non-Repetitive Peak Reverse Voltage	100	**V**	
VRMS	Max Repetitive Peak Reverse Voltage	75	**V**	
IFM	Forward Continuous Current	300	**mA**	
trr	Max Reverse Recovery Time	4	**nS**	**IF= 10mA, IR=10mA, IRR=1mA,RL=100Ω**
IFSM	Non-Repetitive Peak Forward Aurge Current	2.0 1.0	**Amps**	T=1.0**μS, T=1.0S**
PTOT	Power dissipation	500	**mW**	Note 1
TJ, TSTG	Operating and Storage Temperature	-65 to +175	**℃**	

Electrical Characteristics *(T Ambient=25ºC unless noted otherwise)*

Symbol	Description	LL4148	Unit	Conditions
VF	Max Instantaneous Forward Voltage	1.0	**V**	@10mA
IR	Max DC Reverse Current at Rated DC Blocking Voltage	5.0	**μA**	VR=75V
		50		VR=75V,TJ=150℃
		30		VR=25V,TJ=150℃
CJ	Typical Junction Capacitance	4.0	**pF**	Vf=1V, f=1MHZ
RθJA	Typical Thermal Resistance	300	**℃/W**	

Note:

1. Valid provided leads at a distance of 0.31” (8mm) from case are kept at ambient temperature

Ratings And Characteristic Curve LL4148:

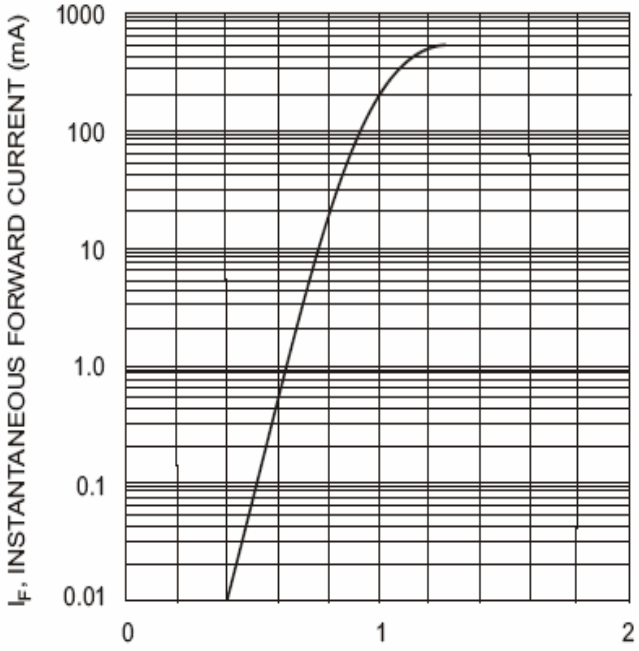


Fig. 1 Forward Characteristics

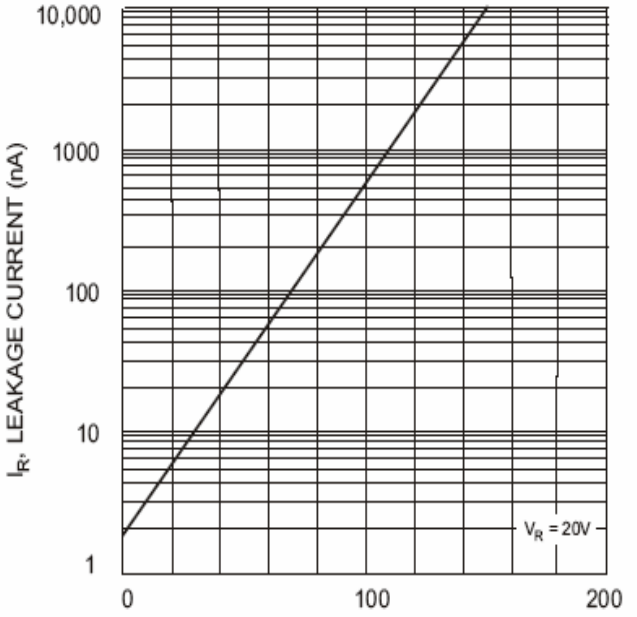
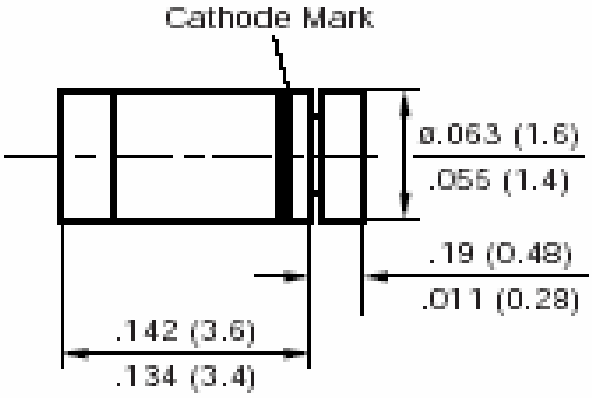


Fig. 2, Leakage Current vs Junction Temperature

Dimensions in inch (mm)



MINI-MELF

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