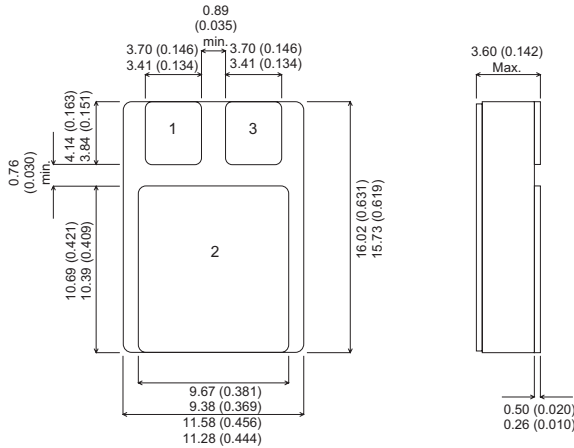


MECHANICAL DATA

Dimensions in mm (inches)



SCHOTTKY DIODE IN HERMETIC CERAMIC SURFACE MOUNT PACKAGE FOR HIGH RELIABILITY APPLICATIONS

PACKAGE SMD1 (TO-267AB)

Underside View

PAD 1 — Anode PAD 2 — Cathode PAD 3 — Not used

ABSOLUTE MAXIMUM RATINGS ($T_C = 25^\circ\text{C}$ unless otherwise stated)

Parameter	Description	Value
V_{RRM}	Repetitive Peak Reverse Voltage	220V
I_{FAV}	Average Forward Current $T_C = 25^\circ\text{C}$	12A
	$T_C = 90^\circ\text{C}$	9A
I_{FSM}	Maximum surge forward current $T_{vj} = 45^\circ\text{C}; t_p = 10\text{ms}$ (50Hz), sine	20A
T_{vj}	Virtual Junction Temperature	-55 + 175°C
T_{stg}	Storage Temperature Range	-55 + 150°C
P_{tot}	$T_C = 25^\circ\text{C}$	78W
R_{thjc}	Thermal Characteristics	3.2°C/W

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_R^*	$T_{VJ} = 25^\circ\text{C}$ $V_R = V_{RRM}$			1.3	mA
	$T_{VJ} = 125^\circ\text{C}$ $V_R = V_{RRM}$		1.3		
V_F^*	$I_F = 5\text{A}$ $T_{VJ} = 125^\circ\text{C}$		1.3		V
	$I_F = 5\text{A}$ $T_{VJ} = 25^\circ\text{C}$	1.2		1.5	
C_J	$V_R = 100\text{V}$ $T_{VJ} = 125^\circ\text{C}$	18			pF

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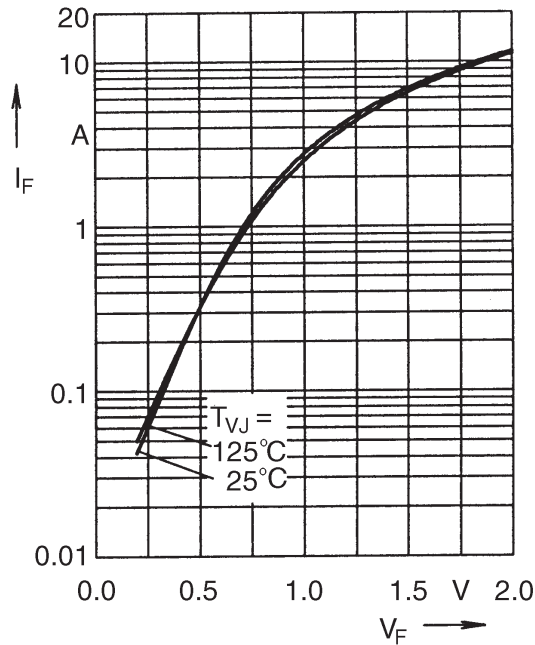


FIG. 1 TYP. FORWARD CHARACTERISTICS

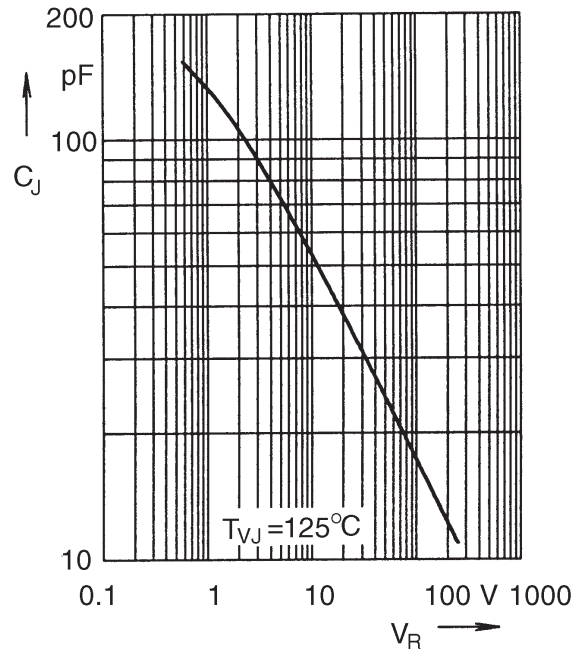


FIG. 2 TYP. JUNCTION CAPACITY VERSUS BLOCKING VOLTAGE

NOTE:

Explanatory comparison for the basic operational behaviour of rectifier diodes and Gallium Arsenide Schottky diodes.

	Rectifier Diode	GaAs Schottky Diodoe
Conduction	by majority + minority carriers	by majority carriers only
forward characteristics	$V_F(I_F)$	$V_F(I_F)$, See Fig 1
turn off characteristics	extraction of excess carriers causes temperature dependant reverse recovery (t_{rr} , I_{RM} , Q_{rr})	reverse current charges junction capacity C_j , see Fig 2;
turn on characteristics	delayed saturation leads to V_{FR}	not temperature dependant no turn on overvoltage peak.

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