

1N6705
1N6705R

Features

- passivated mesa structure for very low leakage currents
- Epitaxial structure minimizes forward voltage drop
- Hermetically sealed surface mount power package
- Low package inductance
- Very low thermal resistance
- Available as standard polarity (strap-to-anode, 1N6705) and reverse polarity (strap-to-cathode: 1N6705R)

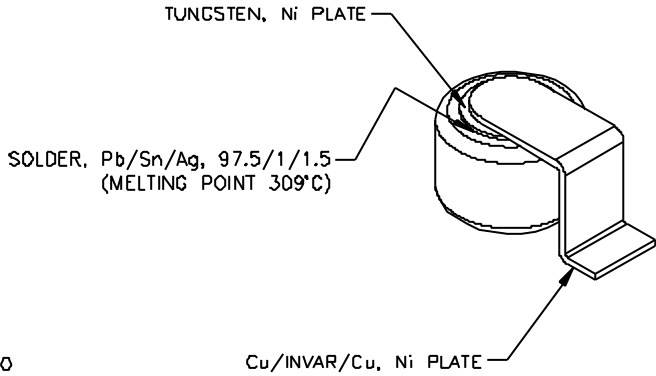
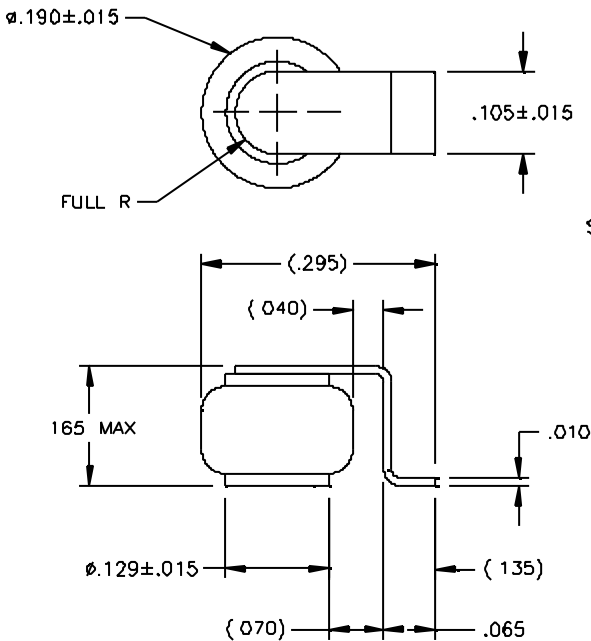
400 Volts
20 Amps
35 ns

ULTRAFAST
RECTIFIER

Maximum Ratings @ 25°C (unless otherwise specified)

DESCRIPTION	SYMBOL	MAX.	UNIT
Peak Repetitive Reverse Voltage	V_{RRM}	400	Volts
Working Peak Reverse Voltage	V_{RWM}	400	Volts
DC Blocking Voltage	V_R	400	Volts
Average Rectified Forward Current, $T_c \leq 125^\circ\text{C}$	$I_{F(ave)}$	20	Amps
Nonrepetitive Peak Surge Current, $t_p = 8.3 \text{ ms}$, half-sinewave	I_{FSM}	100	Amps
Junction Temperature Range	T_j	-65 to +175	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65 to +175	$^\circ\text{C}$
Thermal Resistance, Junction to Case:	θ_{JC}	2.0 (typ. 1.6)	$^\circ\text{C/W}$

Mechanical Outline



G-BODY (DO-217AA)

1N6705

1N6705R

Electrical Parameters

PRELIMINARY

DESCRIPTION	SYMBOL	CONDITIONS	MIN	TYP.	MAX	UNIT
Reverse (Leakage) Current	IR_{25}	$VR = 400 \text{ Vdc}, T_c = 25^\circ\text{C}$		0.3	5	μA
	IR_{125}	$VR = 400 \text{ Vdc}, T_c = 125^\circ\text{C}$		60	200	μA
Forward Voltage pulse test, $pw = 300 \mu\text{s}$ $d/c \leq 2\%$	VF1	$IF = 10 \text{ mA}, T_c = 25^\circ\text{C}$		500	-	mV
	VF2	$IF = 100 \text{ mA}, T_c = 25^\circ\text{C}$		600	-	mV
	VF3	$IF = 3 \text{ A}, T_c = 25^\circ\text{C}$		950	-	mV
	VF4	$IF = 5 \text{ A}, T_c = 25^\circ\text{C}$		1050	1250	mV
	VF5	$IF = 10 \text{ A}, T_c = 25^\circ\text{C}$		1200	1400	mV
	VF6	$IF = 20 \text{ A}, T_c = 25^\circ\text{C}$		1400	1650	mV
	VF7	$IF = 40 \text{ A}, T_c = 25^\circ\text{C}$		1750	-	mV
	VF8	$IF = 5 \text{ A}, T_c = -55^\circ\text{C}$		1480	1700	mV
	VF9	$IF = 10 \text{ A}, T_c = -55^\circ\text{C}$		1625	1850	mV
	VF10	$IF = 20 \text{ A}, T_c = -55^\circ\text{C}$		1450	1700	mV
	VF11	$IF = 5 \text{ A}, T_c = 125^\circ\text{C}$		975	1200	mV
	VF12	$IF = 10 \text{ A}, T_c = 125^\circ\text{C}$		1160	1400	mV
	VF13	$IF = 20 \text{ A}, T_c = 125^\circ\text{C}$		1725	2050	mV
Junction Capacitance	C_{j1}	$VR = 10 \text{ Vdc}$		50	80	pF
Breakdown Voltage	BVR	$IR = 100 \mu\text{A}, T_c = 25^\circ\text{C}$	440	500	n/a	V
Reverse Recovery Time	trr	$IF = .5 \text{ A}, IR = 1 \text{ A}, IRR = .25 \text{ A}$		25	35	ns

typical VF

