

1N6821

(MSASC150H45L)

1N6821R

(MSASC150H45LR)

Features

- Tungsten/Platinum schottky barrier
- Oxide passivated structure for very low leakage currents
- Guard ring protection for increased reverse energy capability
- Epitaxial structure minimizes forward voltage drop
- Hermetically sealed, low profile ceramic surface mount power package
- Low package inductance
- Very low thermal resistance
- Available as standard polarity (strap-to-anode, 1N6821) and reverse polarity (strap-to-cathode: 1N6821R)

45 Volts
150 Amps

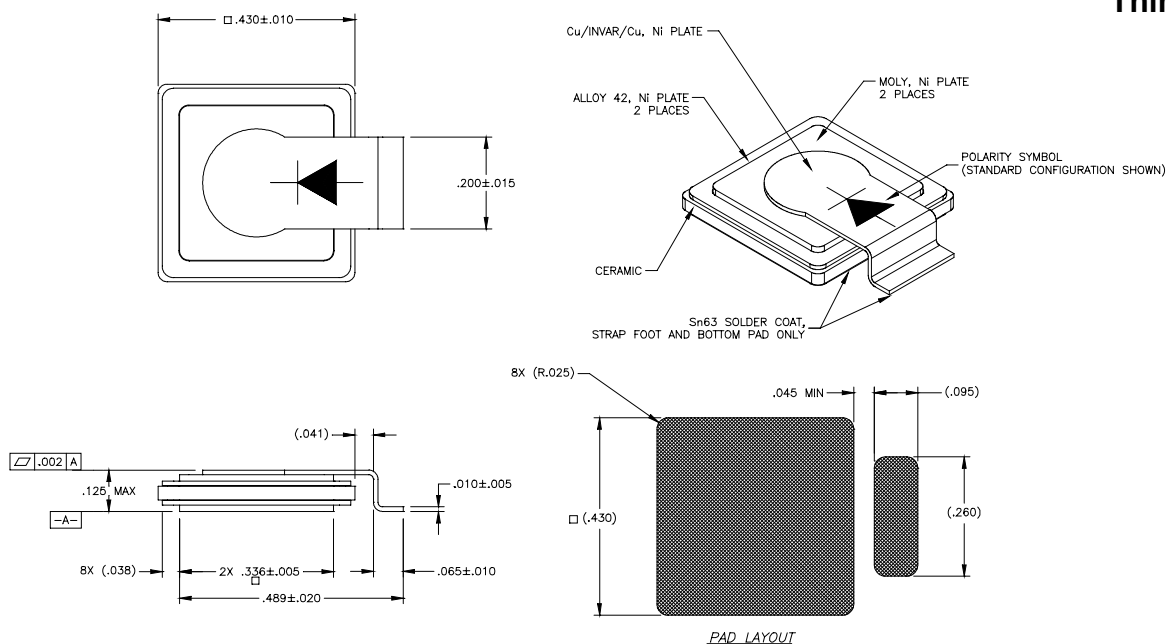
LOW VOLTAGE
DROP SCHOTTKY
DIODE

Maximum Ratings @ 25°C (unless otherwise specified)

DESCRIPTION	SYMBOL	MAX.	UNIT
Peak Repetitive Reverse Voltage	V_{RRM}	45	Volts
Working Peak Reverse Voltage	V_{RWM}	45	Volts
DC Blocking Voltage	V_R	45	Volts
Average Rectified Forward Current, $T_c \leq 125^\circ\text{C}$	$I_{F(ave)}$	150	Amps
derating, forward current, $T_c \geq 125^\circ\text{C}$	dI_F/dT	4	Amps/ $^\circ\text{C}$
Nonrepetitive Peak Surge Current, $t_p = 8.3$ ms, half-sinewave	I_{FSM}	750	Amps
Peak Repetitive Reverse Surge Current, $t_p = 1\mu\text{s}$, $f = 1\text{kHz}$	I_{RRM}	2	Amp
Junction Temperature Range	T_j	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$
Thermal Resistance, Junction to Case:	θ_{JC}	0.20	$^\circ\text{C/W}$
	1N6821		
	1N6821R	0.35	

Mechanical Outline

ThinKey™3

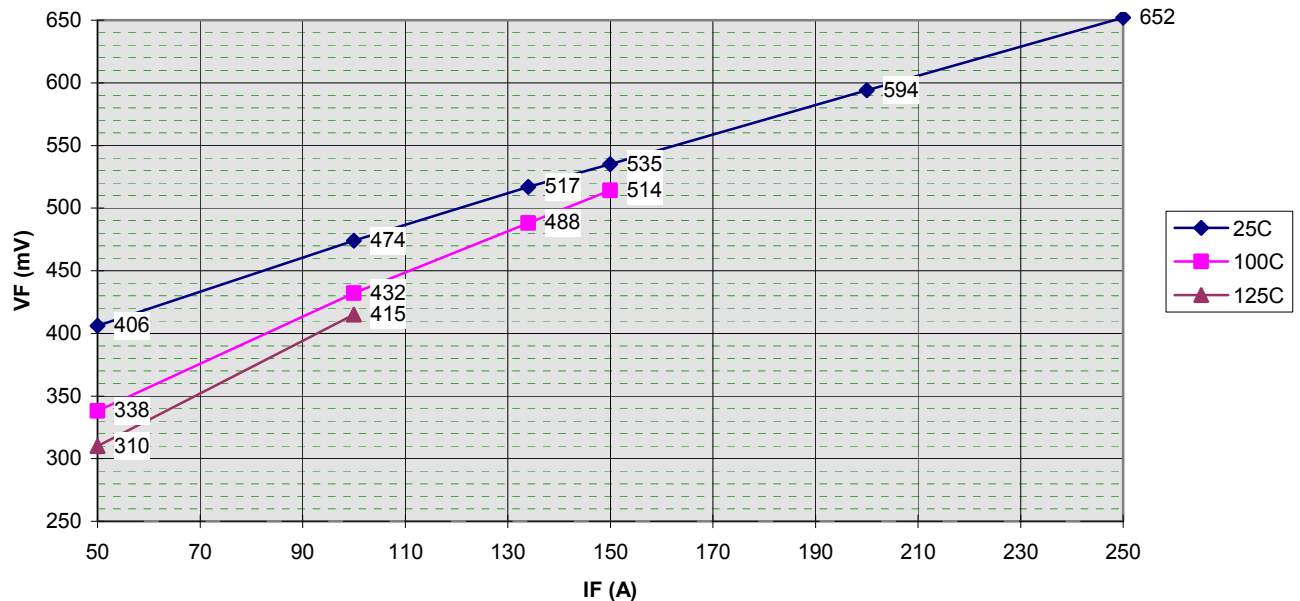


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Electrical Parameters

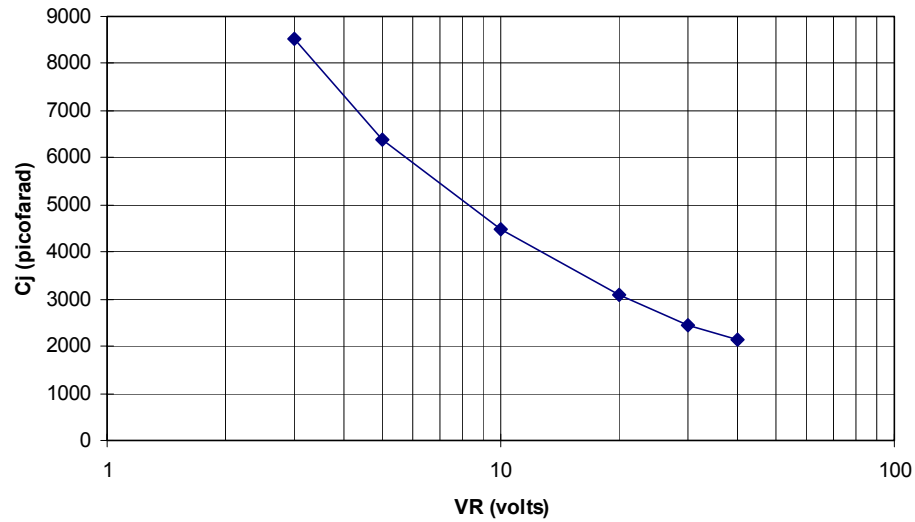
DESCRIPTION	SYMBOL	CONDITIONS	MIN	TYP.	MAX	UNIT
Reverse (Leakage) Current	IR_{25}	$VR = 45 \text{ Vdc}, T_c = 25^\circ\text{C}$		1	10	mA
	IR_{100}	$VR = 45 \text{ Vdc}, T_c = 100^\circ\text{C}$		125	400	mA
	IR_{125}	$VR = 45 \text{ Vdc}, T_c = 125^\circ\text{C}$		500		mA
Forward Voltage pulse test, $pw = 300 \mu\text{s}$ $d/c \leq 2\%$	VF1	$IF = 20\text{A}, T_c = 25^\circ\text{C}$		340	370	mV
	VF2	$IF = 50\text{A}, T_c = 25^\circ\text{C}$		410	450	mV
	VF3	$IF = 100\text{A}, T_c = 25^\circ\text{C}$		475	530	mV
	VF4	$IF = 150\text{A}, T_c = 25^\circ\text{C}$		540	600	mV
	VF5	$IF = 200\text{A}, T_c = 25^\circ\text{C}$		600		mV
	VF6	$IF = 50\text{A}, T_c = -55^\circ\text{C}$		470	550	mV
	VF7	$IF = 50\text{A}, T_c = 125^\circ\text{C}$		315	380	mV
	VF8	$IF = 100\text{A}, T_c = 125^\circ\text{C}$		415		mV
	VF9	$IF = 150\text{A}, T_c = 100^\circ\text{C}$		515		mV
	VF10	$IF = 10 \text{ mA}, T_c = 25^\circ\text{C}$		135	-	mV
	VF11	$IF = 50 \text{ mA}, T_c = 25^\circ\text{C}$		175	-	mV
	VF12	$IF = 100 \text{ mA}, T_c = 25^\circ\text{C}$		195	-	mV
Junction Capacitance	Cj1	$VR = 10 \text{ Vdc}$		4500	4900	pF
	Cj2	$VR = 5 \text{ Vdc}$		6400		pF
Breakdown Voltage	BVR	$IR = 5 \text{ mA}, T_c = 25^\circ\text{C}$		55		V
		$IR = 5 \text{ mA}, T_c = -55^\circ\text{C}$	45	50		V

Typical VF data, msasc150h45



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Cj vs VR Typical Curve



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