JEDEC TUNING VARACTORS

JEDEC REGISTERED

1N5139, A through 1N5148, A
1N5441, A, B, C through 1N5456, A, B, C
1N5461, A, B, C through 1N5476, A, B, C
DO-7 Glass Package

FEATURES

- High Q and High Tuning Ratio
- Guaranteed Tuning Ratio and Temperature Coefficient
- Superior Reproducibility
- High Reliability (state-of-the-art passivation plus hermetic packaging)

ELECTRICAL SPECIFICATIONS

$T_A = 25°C$

C_T** DIODE CAPACITANCE (pF) ±10% @ V_R = 4 Vdc, f = 1 MHz	MODEL NUMBER	Q, FIGURE OF MERIT V_R = 4 Vdc, f = 50 MHz MIN	TR, TUNING RATIO C_4/C_{60}, f = 1 MHz MIN**/TYP/MAX	MODEL NUMBER	Q, FIGURE OF MERIT V_R = 4 Vdc, f = 50 MHz MIN**	TR, TUNING RATIO C_2/C_{30}, f = 1 MHz MIN**/TYP/MAX**	MODEL NUMBER	Q, FIGURE OF MERIT V_R = 4 Vdc, F = 50 MHz MIN**	TR, TUNING RATIO C_2/C_{30}, f = 1 MHz MIN**/TYP/MAX**
6.8	1N5139	350	2.7/2.9/3.2	IN5441A	450	2.5/3.0/3.1	IN5461A	600	2.7/3.0/3.1
8.2				IN5442A	450	2.5/3.0/3.1	IN5462A	600	2.8/3.0/3.1
10	1N5140	300	2.8/3.0/3.3	IN5443A	400	2.6/3.0/3.1	IN5463A	550	2.8/3.0/3.1
12	1N5141	300	2.8/3.0/3.3	IN5444A	400	2.6/3.0/3.1	IN5464A	550	2.8/3.0/3.1
15	1N5142	250	2.8/3.0/3.3	IN5445A	400	2.6/3.0/3.1	IN5465A	550	2.8/3.0/3.1
18	1N5143	250	2.8/3.1/3.4	IN5446A	350	2.6/3.0/3.1	IN5466A	500	2.9/3.0/3.1
20				IN5447A	350	2.6/3.0/3.1	IN5467A	500	2.9/3.0/3.1
22	1N5144	200	3.2/3.4/3.5	IN5448A	350	2.6/3.1/3.2	IN5468A	500	2.9/3.1/3.2
27	1N5145	200	3.2/3.4/3.5	IN5449A	350	2.6/3.1/3.2	IN5469A	500	2.9/3.1/3.2
33	1N5146	200	3.2/3.4/3.5	IN5450A	350	2.6/3.1/3.2	IN5470A	500	2.9/3.1/3.2
39	1N5147	200	3.2/3.4/3.5	IN5451A	300	2.6/3.1/3.2	IN5471A	450	2.9/3.1/3.2
47	1N5148	200	3.2/3.4/3.5	IN5452A	250	2.6/3.1/3.2	IN5472A	400	2.9/3.1/3.2
56				IN5453A	200	2.6/3.2/3.3	IN5473A	300	2.9/3.2/3.3
68				IN5454A	175	2.7/3.2/3.3	IN5474A	250	2.9/3.2/3.3
82				IN5455A	175	2.7/3.2/3.3	IN5475A	225	2.9/3.2/3.3
100				IN5456A	175	2.7/3.2/3.3	IN5476A	200	2.9/3.2/3.3

PARAMETER		TEST CONDITIONS	UNIT	** MIN	TYP	** MAX	TEST CONDITIONS	UNIT	** MIN	TYP	** MAX	TEST CONDITIONS	UNIT	** MIN	TYP	** MAX
REVERSE BREAKDOWN VOLTAGE	V_{BR}	I_R = 10μAdc	Vdc	60	70	–	I_R = 10μAdc	Vdc	30	–	–	I_R = 10μAdc	Vdc	30	–	–
REVERSE LEAKAGE CURRENT	I_R	V_R = 55 Vdc, T_A = 25°C V_R = 55 Vdc, T_A = 150°C	μAdc	– –	– –	0.02 20	V_R = 25 Vdc, T_A = 25°C V_R = 25 Vdc, T_A = 150°C	μAdc	– –	– –	0.02 20	V_R = 25 Vdc, T_A = 25°C V_R = 25 Vdc, T_A = 150°C	μAdc	– –	– –	0.02 20
SERIES INDUCTANCE	L_S	f = 250 MHz, L = 1/16"	nH	–	5	–	f = 250 MHz, L = 1/16"	nH	–	4	10	f = 250 MHz, L = 1/16"	nH	–	4	10
CASE CAPACITANCE	C_C	f = 1 MHz, L = 1/16"	pF	–	0.25	–	f = 1 MHz, L = 1/16"	pF	0.1	0.17	0.25	f = 1 MHz, L = 1/16"	pF	0.1	0.17	0.25
DIODE CAPACITANCE TEMPERATURE COEFFICIENT	TC_C	V_R = 4 Vdc, f = 1 MHz	ppm/°C	–	200	300	V_R = 4 Vdc, f = 1 MHz	ppm/°C	–	300	400	V_R = 4 Vdc, f = 1 MHz	ppm/°C	–	300	400

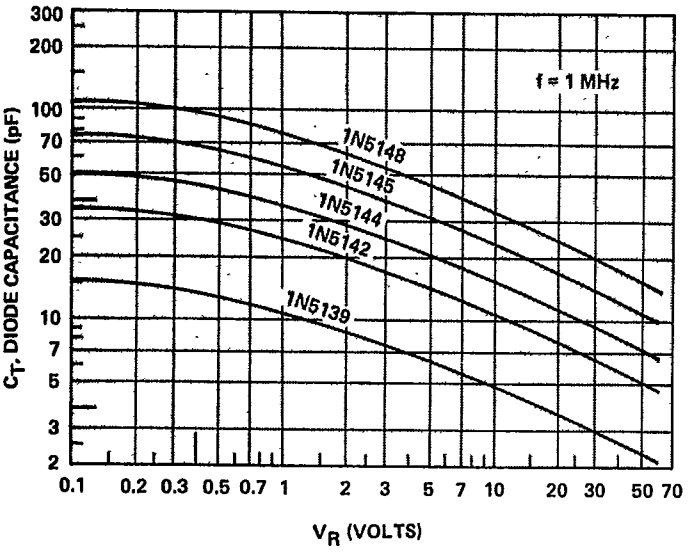
MAXIMUM RATINGS

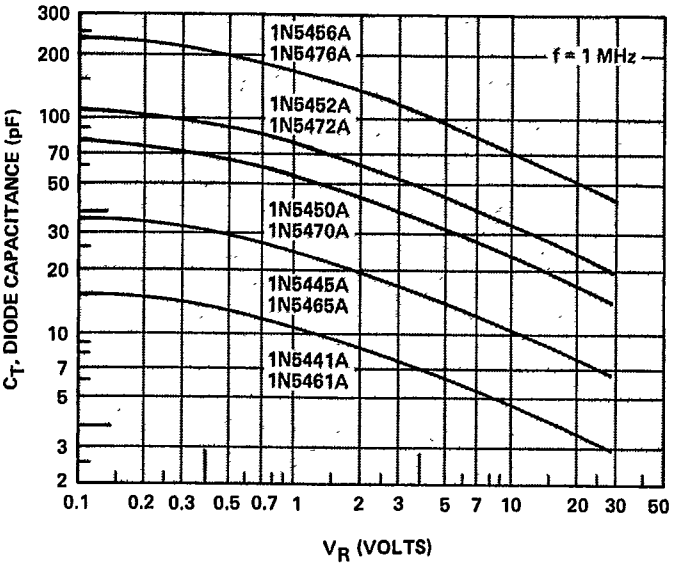
PARAMETER	VALUE	UNIT	VALUE	UNIT	VALUE	UNIT
REVERSE VOLTAGE	60	Vdc	30	Vdc	30	Vdc
DEVICE DISSIPATION @ T_A = 25°C	400	mW	400	mW	400	mW
DERATE ABOVE 25°C	2.67	mW/°C	2.67	mW/°C	2.67	mW/°C
OPERATING JUNCTION TEMPERATURE RANGE	+175	°C	+175	°C	+175	°C
STORAGE TEMPERATURE RANGE	-65 TO +200	°C	-65 TO +200	°C	-65 TO +200	°C
	ADD SUFFIX "A" FOR ±5% C_T TOLERANCE		SUBSTITUTE SUFFIX "B" FOR ±5% C_T TOLERANCE, SUFFIX "C" FOR ±2% C_T TOLERANCE, SUFFIX "D" FOR ±1% C_T TOLERANCE. DELETE SUFFIX FOR ±20% TOLERANCE.			

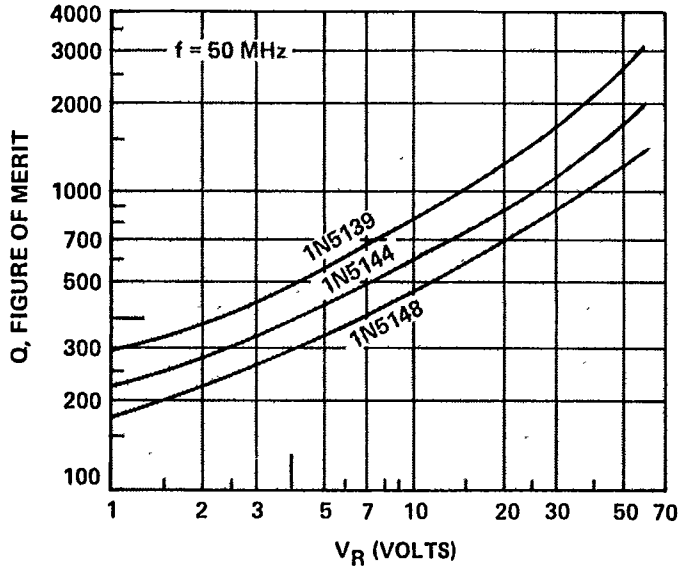
**INDICATES JEDEC REGISTERED DATA

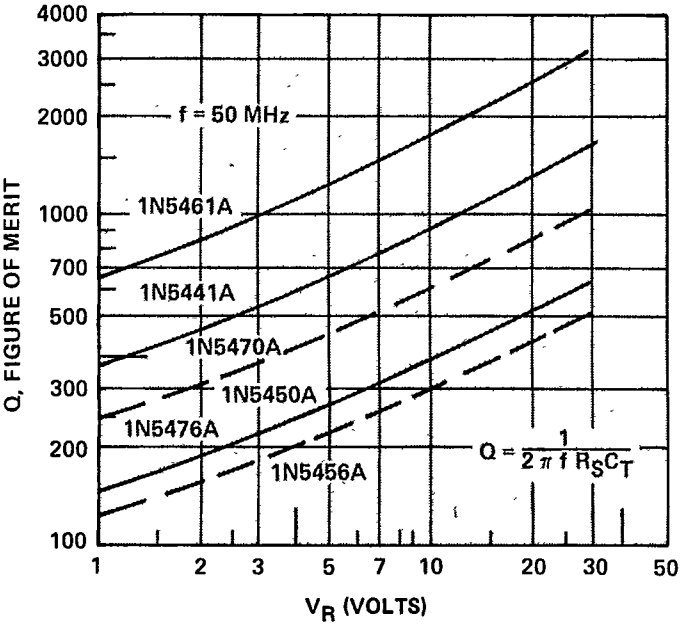
JEDEC TUNING VARACTORS

TYPICAL ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)









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