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NTE6094
Silicon Rectifier
Schottky Barrier
45V, 60 Amp, DO5

Description:

The NTE6094 is a Schottky Barrier Rectifier in a DO5 type package designed for use as a rectifier in low–voltage, high–frequency inverters, freewheeling diodes, and polarity–protection diodes.

Features:

- Guaranteed Reverse Avalanche
- Extremely Low v_F
- Low Stored Charge, majority Carrier Conduction
- Guardring for Stress Protection
- Low Power Loss/High Efficiency
- +150°C Operating Junction Temperature Capability
- High Surge Capacity

Absolute Maximum Ratings:

Peak Repetitive Reverse Voltage, V_{RRM} 45V
Working Peak Reverse Voltage, V_{RWM} 45V
DC Blocking Voltage, V_R 45V
Peak Repetitive Forward Current, I_{FRM}
(V_R = 45V, T_C = +90°C, Square Wave, 20kHz) 120A
Non–Repetitive Peak Surge Current, I_{FSM}
(Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60Hz) 800A
Peak Repetitive Reverse Surge Current (Note 1, 2.0μs, 1.0kHz), I_{RRM} 2A
Voltage Rate of Change (V_R = 45V), dv/dt 700V/μs
Operating Junction Temperature Range (Reverse Voltage Applied), T_J . . . . . –65° to +150°C
Storage Temperature Range, T_{stg} . . . . . –65° to +165°C
Maximum Thermal Resistance, Junction–to–Case, R_{thJC} . . . . . 1.0°C/W

Note 1. Pulse Test: Pulse Width = 300μs, Duty Cycle = 2%.

Electrical Characteristics: (T_C = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Maximum Instantaneous Forward Voltage	v_F	i_F = 60A, Note 1	–	–	0.70	V
		i_F = 60A, T_C = +125°C, Note 1	–	–	0.60	V
		i_F = 120A, T_C = +125°C, Note 1	–	–	0.84	V
Maximum Instantaneous Reverse Current	i_R	V_R = 45V, T_C = +25°C, Note 1	–	–	50	mA
		V_R = 45V, T_C = +125°C, Note 1	–	–	200	mA
DC Reverse Current	I_R	V_R = 45V, T_C = +115°C	–	–	250	mA
Maximum Capacitance	C_t	V_R = 5V, 100kHz ≤ f ≤ 1MHz	–	–	4000	pF

Note 1. Pulse Test: Pulse Width = 300μs, Duty Cycle = 2%.