NTE5693/NTE5695/NTE5697
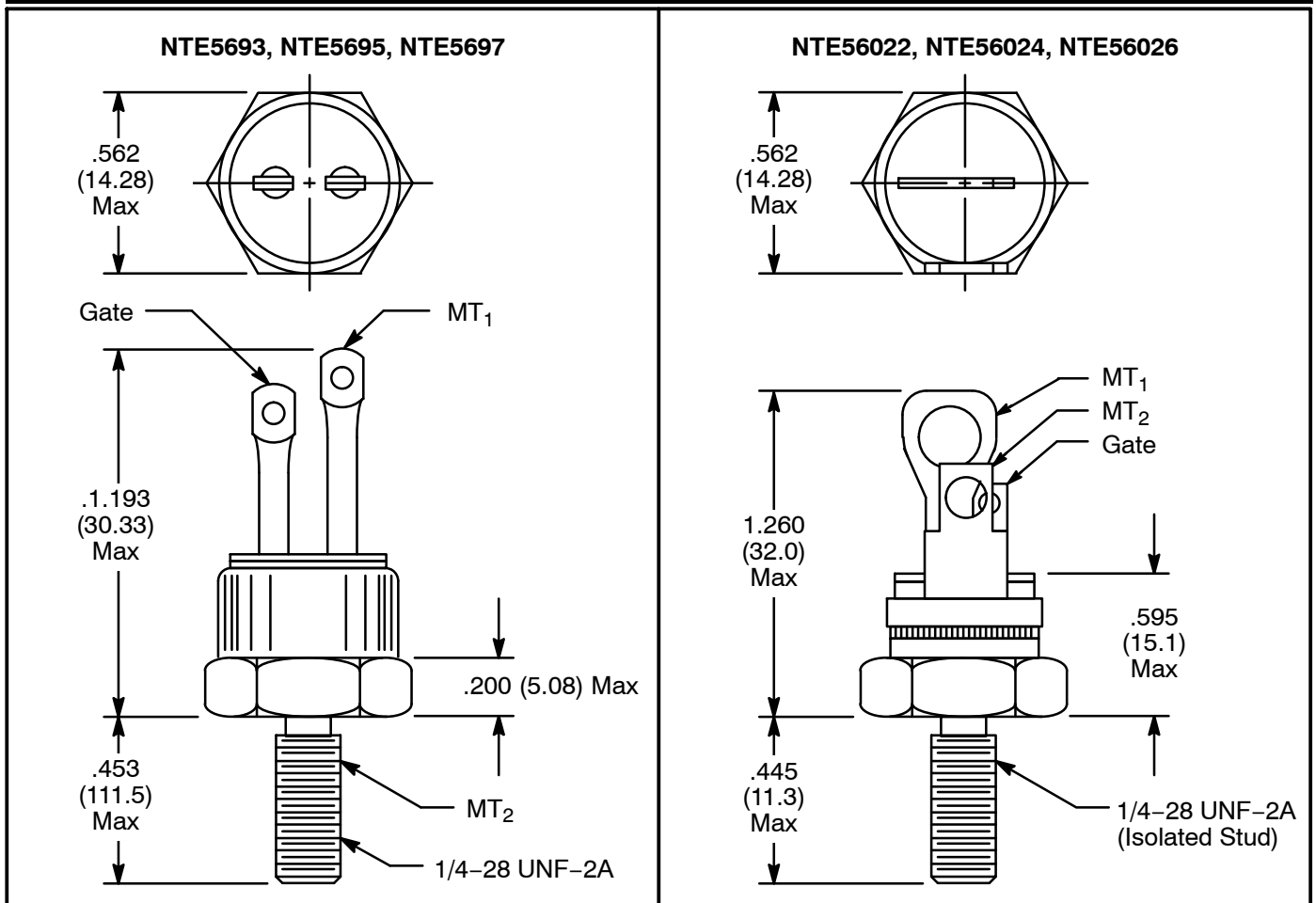# NTE56022/NTE56024/NTE56026
TRIAC, 40 Amp

Description:

This NTE 40 Amp series medium power TRIACs are bi–directional triode thyristors which may be switched from off–state to conduction for either polarity of applied voltage with positive or negative gate triggering. These devices are designed for control of AC loads in applications such as lighting, heating and motor speed control, as well as static switching relays. These devices are available in a standard TO48 package (NTE5693, NTE5695, and NTE5697) or an Isolated TO48 package NTE56022, NTE56024, and NTE56026).

Absolute Maximum Ratings:

Repetitive Peak Off–State Voltage (T_J = +100°C), V_{DRM}
       NTE5693, NTE56022 . . . . 200V
       NTE5695, NTE56024 . . . . 400V
       NTE5697, NTE56026 . . . . 600V

Repetitive Peak Reverse Voltage (T_J = +100°C), V_{RRM}
       NTE5693, NTE56022 . . . . 200V
       NTE5695, NTE56024 . . . . 400V
       NTE5697, NTE56026 . . . . 600V

RMS On–State Current (T_C = +75°C, 360° Continuous), $I_{T(RMS)}$ 40A

Peak Surge (Non–Repetitive) On–State Current, I_{TSM}
       One–Cycle, 60Hz 400A
       One–Cycle, 50Hz 350A

Peak Gate–Trigger Current (3° s Max), I_{GTM} 12A

Peak Gate–Power Dissipation (I_{GT} ≤ I_{GTM} for 3° s Max), P_{GM} 40W

Average Gate–Power Dissipation, $P_{G(AV)}$ 750mW

Operating Junction Temperature Range, T_{opr} . . . . −40° to +100°C
       NTE56026 **ONLY** . . . . −65° to +110°C

Storage Temperature Range, T_{stg} . . . . −40° to +150°C
       NTE56026 **ONLY** . . . . −65° to +150°C

Thermal Resistance, Junction–to–Case, R_{thJC}
       NTE5693, NTE5695, NTE5697 . . . . 1.8°C/W
       NTE56022, NTE56024 . . . . 2.1°C/W
       NTE56026 . . . . 1°C/W

Electrical Characteristics: (At Maximum Ratings and Indicated Case Temperatures unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Peak Off–State Current	I_{DROM}	$T_J = +100°C$, Gate Open, V_{DROM} = Max Rating	–	–	4	mA
Maximum On–State Voltage	V_T	$T_C = +25°C$, $I_T = 100A$ (Peak)	–	–	2.5	V
DC Holding Current	I_{HOLD}	$T_C = +25°C$, Gate Open	–	–	60	mA
Critical rate–of–Rise of Off–State Voltage	Critical dv/dt	$T_C = +100°C$, At V_{DROM}, Gate Open				
NTE5693, NTE56022			–	200	–	V/°s
NTE5695, NTE56024			–	150	–	V/°s
NTE5697, NTE56026			–	100	–	V/°s
Critical Rate–of–Rise of Commutation Voltage	Commutating dv/dt	$T_C = +75°C$, Gate Unenergized, $^vD = V_{DROM}$, $T = I_{T(RMS)}$, Commutating di/dt = 16A/ms	3	–	–	V/°s
DC Gate–Trigger Current (T_2+, Gate+; $T_2–$, Gate–) Quads I–II	I_{GT}	$T_C = +25°C$, $^vD = 12VDC$, $R_L = 30≤$	–	–	50	mA
(T_2+, Gate–; $T_2–$, Gate+) Quads II–IV			–	–	80	mA
DC Gate–Trigger Voltage	V_{GT}	$T_C = +25°C$, $^vD = 12VDC$, $R_L = 30≤$	–	–	2.5	V
Gate–Controlled Turn–On Time	t_{gt}	$T_C = +25°C$, $^vD = V_{DROM}$, $I_{GT} = 300mA$, $t_r = 0.1°s$, $^iT = 10A_{(Peak)}$	–	3	–	°s

NTE5693, NTE5695, NTE5697

.562 (14.28) Max

Gate — MT$_1$

.1.193 (30.33) Max

.200 (5.08) Max

.453 (111.5) Max

MT$_2$

1/4–28 UNF–2A

NTE56022, NTE56024, NTE56026

.562 (14.28) Max

MT$_1$
MT$_2$
Gate

1.260 (32.0) Max

.595 (15.1) Max

.445 (11.3) Max

1/4–28 UNF–2A (Isolated Stud)

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