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NTE276 Silicon Controlled Rectifier (SCR) Gate Controlled Switch

Features:

- Gate Turn-Off Thyristor
- High Speed Power Switching
- TV Horizontal Output
- Inverter and Converter Application
- Supplied in a Japanese TO66 Type Package

Absolute Maximum Ratings: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

Non-Repetitive Peak Off-State Voltage ($T_J = -40^\circ$ to $+120^\circ\text{C}$, $V_{GK} = 0$), V_{DSM}	1400V
Repetitive Peak Off-State Voltage ($T_J = -40^\circ$ to $+120^\circ\text{C}$, $V_{GK} = 0$), V_{DRM}	1250V
DC On-State Anode Current ($T_C = +60^\circ\text{C}$), I_T	5A
Surge On-State Current ($T_C = +60^\circ\text{C}$), I_{TSM}	
$t = 100\mu\text{s}$	80A
$t = 1\text{ms}$	33A
Peak Forward Gate Current ($T_C = +60^\circ\text{C}$, $t = 1\text{ms}$), I_{GFM}	4A
Average Forward Gate Power Dissipation ($T_C = +60^\circ\text{C}$), $P_{GF(AV)}$	1W
Peak Reverse Gate Power Dissipation ($T_C = +60^\circ\text{C}$, $t = 5\mu\text{s}$), P_{GRM}	30W
Average Reverse Gate Power Dissipation ($T_C = +60^\circ\text{C}$), $P_{GR(AV)}$	2W
Total Power Dissipation ($T_C = +25^\circ\text{C}$), P_T	47.5W
Operating Junction Temperature Range, T_J	-40° to $+120^\circ\text{C}$
Storage Temperature Range, T_{stg}	-50° to $+120^\circ\text{C}$
Thermal Resistance, Junction-to-Case, R_{thJC}	
Typical	1.3°C/W
Maximum	2.0°C/W

Electrical Characteristics: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Controllable Anode Current	I_{TC}	$V_D = 100\text{V}$, $V_{GR} = 9\text{V}$, $R_g = 0$	25	–	–	A
On-State Voltage	V_T	$I_T = 5\text{A}$, $I_{GF} = 300\text{mA}$	–	–	5.3	V
Gate Trigger Voltage	V_{GT}	$V_D = 10\text{V}$	–	–	1.5	V
Gate Trigger Current	I_{GT}	$V_D = 10\text{V}$	–	–	120	mA

Electrical Characteristics (Cont'd): ($T_A = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Latching Current	I_L	$V_D = 10\text{V}$	–	0.6	–	A
Holding Current	I_H		–	300	–	mA
Turn-Off Current Gain	G_{off}	$V_D = 100\text{V}$, $I_T = 25\text{A}$, $t_{\text{off}} = 10\mu\text{s}$	14.7	20.0	–	
Off-State Anode Current	I_{DRM}	$V_D = 1000\text{V}$, $V_{\text{GK}} = 0$	–	–	0.5	mA
Turn-On Time	t_d	$V_D = 100\text{V}$, $I_T = 5\text{A}$, $I_{\text{GF}} = 250\text{mA}$	–	0.2	–	μs
	t_r		–	1.3	–	μs
Turn-Off Time	t_{stg}	$V_D = 100\text{V}$, $I_T = 5\text{A}$, $I_{\text{GR}} = 9\text{V}$	–	0.22	–	μs
	t_f		–	0.09	–	μs
Critical rate of Rise of Off-State Voltage	dv/dt	$V_{\text{DM}} = 1000\text{V}$, $V_{\text{GK}} = 0$	1000	–	–	$\text{V}/\mu\text{s}$
Gate Breakdown Voltage	$V_{(\text{BR})\text{GR}}$	$I_{\text{GR}} = 10\text{mA}$	9	12	–	V

