RoHS
2002/95/EC

NTE2684
Silicon NPN Transistor
High Current Switch
TO126 Type Package

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

Collector–Base Voltage (Open Emitter), V_{CBO} 120V
Collector–Emitter Voltage (Open Base), V_{EBO} 75V
Emitter–Base Voltage (Open Collector), V_{EBO} 5V
DC Collector Current, I_C 5A
Peak Collector Current, I_{CM} 10A
Peak Base Current, I_{BM} 2A
Total Power Dissipation (T_C ≤ +75°C), P_T 15W
Operating Junction Temperature, T_J . . . . +150°C
Storage Temperature Range, T_{stg} . . . . −65° to +150°C
Thermal Resistance, Junction–to–Ambient, R_{thJA} 100K/W
Thermal Resistance, Junction–to–Case, R_{thJC} 5K/W

Electrical Characteristic: (T_J = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 5A, I_B = 0.5A		–	–	0.9	V
		I_C = 7A, I_B = 0.7A		–	–	1.2	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 5A, I_B = 0.5A		–	–	1.7	V
		I_C = 7A, I_B = 0.7A		–	–	2.0	V
Collector Cutoff Current	I_{CBO}	V_{CB} = 100V, I_E = 0		–	–	0.1	≤A
			T_J = +100°C	–	–	10	≤A
Emitter Cutoff Current	I_{EBO}	V_{EB} = 5V, I_C = 0		–	–	0.1	≤A
DC Current Gain	h_{FE}	I_C = 0.5A, V_{CE} = 10V		45	–	450	
Collector Capacitance	C_C	I_E = 0, V_{CB} = 10V, f = 1MHz		–	40	–	pF
Transition Frequency	f_T	I_C = 0.5A, V_{CE} = 5V, f = 100MHz		–	100	–	MHz
Turn–On Time	t_{on}	I_{Con} = 1A, I_{Bon} = −I_{Boff} = 0.1A		–	60	100	ns
		I_{Con} = 2A, I_{Bon} = −I_{Boff} = 0.2A		–	–	80	ns
		I_{Con} = 5A, I_{Bon} = −I_{Boff} = 0.5A		–	180	300	ns
Turn–Off Time	t_{off}	I_{Con} = 1A, I_{Bon} = −I_{Boff} = 0.1A		–	600	800	ns
		I_{Con} = 2A, I_{Bon} = −I_{Boff} = 0.2A		–	450	700	ns
		I_{Con} = 5A, I_{Bon} = −I_{Boff} = 0.5A		–	350	500	ns

.335 (8.5)
Max

.150
(3.8)

.472
(12.0)
Max

.126 (3.2)
Dia

E   C   B

.030 (0.75)

.512
(13.0)
Min

.090 (2.3)

.110 (2.8)
Max