ELECTRONICS, INC.
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NTE126
Germanium Mesa Transistor, PNP, for High–Speed Switching Applications

Maximum Ratings:

Collector–Emitter Voltage, V_{CE} 15Vdc
Collector–Base Voltage, V_{CB} 15Vdc
Emitter–Base Voltage, V_{EB} 2.5Vdc
Total Device Dissipation (T_A = +25°C), P_D 150mW
Derate above 25°C . . . . . 2.0mW/°C
Total Device Dissipation (T_C = +25°C), P_D 300mW
Derate above 25°C . . . . . 4.0mW/°C
Operating Junction Temperature Range, T_J . . . . . –65° to +100°C
Storage Junction Temperature Range, T_{stg} . . . . . –65° to +100°C

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

Parameter	Symbol	Min	Max	Unit
Collector–Base Breakdown Voltage (I_C = 100µAdc, I_E = 0)	BV_{CBO}	15	–	Vdc
Emitter–Base Breakdown Voltage (I_E = 100µAdc, I_C = 0)	BV_{EBO}	2.5	–	Vdc
Collector–Latch–Up Voltage (V_{CC} = 11.5 Vdc)	LV_{CEX}	11.5	–	Vdc
Collector–Emitter Cutoff Current (V_{CE} = 15Vdc)	I_{CES}	–	100	µAdc
Collector–Base Cutoff Current (V_{CB} = 6Vdc, I_E = 0)	I_{CBO}	–	3.0	µAdc
DC Current Gain	h_{FE}			–
(I_C = 10mAdc, V_{CE} = 0.3Vdc)		40	–	
(I_C = 50mAdc, V_{CE} = 1Vdc)		40	–	
(I_C = 100mAdc, V_{CE} = 1Vdc)		40	–	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$			Vdc
(I_C = 10mAdc, I_B = 1mAdc)		–	0.18	
(I_C = 50mAdc, I_B = 5mAdc)		–	0.35	
(I_C = 100mAdc, I_B = 10mAdc)		–	0.60	

Electrical Characteristics (Cont'd): (T_A = 25°C)

Parameter	Symbol	Min	Max	Unit
Base–Emitter Saturation Voltage	$V_{BE(sat)}$			Vdc
(I_C = 10mAdc, I_B = 1mAdc)		0.30	0.50	
(I_C = 50mAdc, I_B = 5mAdc)		0.40	0.75	
(I_C = 100mAdc, I_B = 10mAdc)		0.40	1.00	
Current–Gain–Bandwidth Product	f_T			MHz
(I_E = 20mAdc, V_{CB} = 1.0Vdc, f = 100MHz)		300	–	
Output Capacitance	C_{ob}			pF
(V_{CB} = 10Vdc, I_E = 0, f = 1MHz)		–	4.0	
Emitter Transition Capacitance	C_{Te}			pF
(V_{EB} = 1Vdc)		–	3.5	
Turn–On Time	t_{on}			ns
(I_C = 10mAdc, I_{B1} = 5mAdc, $V_{BE(off)}$ = 1.25Vdc)		–	50	
(I_C = 100mAdc, I_{B1} = 5mAdc, $V_{BE(off)}$ = 1.25Vdc)		–	50	
Turn–Off Time	t_{off}			ns
(I_C = 10mAdc, I_{B1} = 1mAdc, I_{B2} = 0.25mAdc)		–	85	
(I_C = 100mAdc, I_{B1} = 5mAdc, I_{B2} = 1.25mAdc)		–	85	
Total Control Charge	Q_T			pC
(I_C = 10mAdc, I_B = 1mAdc)		–	80	
(I_C = 100mAdc, I_B = 5mAdc)		–	125