

# Power Transistor MN611S

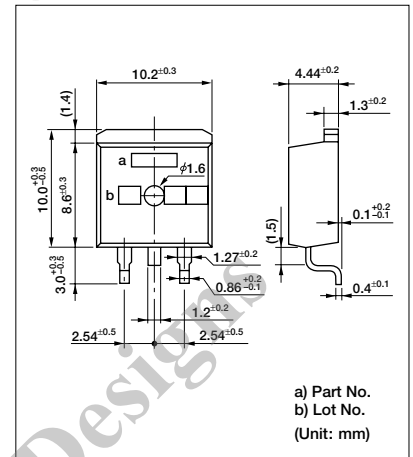
## Absolute Maximum Ratings (Ta=25°C)

Symbol	Rating	Unit
V <sub>CB0</sub>	115±10	V
V <sub>CE0</sub>	115±10	V
V <sub>EB0</sub>	6	V
I <sub>c</sub>	±6 (pulse ±10)	A
I <sub>B</sub>	1	A
P <sub>c</sub>	50 (T <sub>c</sub> =25°C)	W
	1.2 (Ta=25°C, No Fin)	
T <sub>J</sub>	150	°C
T <sub>stg</sub>	-55 to +150	°C

## Electrical Characteristics (Ta=25°C)

Symbol	Test Conditions	Ratings			Unit
		min	typ	max	
I <sub>CB0</sub>	V <sub>CB</sub> =105V			10	μA
I <sub>EB0</sub>	V <sub>EB</sub> =6V			10	μA
V <sub>CE0</sub>	I <sub>c</sub> =50mA	105	115	125	V
h <sub>FE</sub>	V <sub>CE</sub> =1V, I <sub>c</sub> =1A	400	800	1500	
V <sub>CE(sat)</sub>	I <sub>c</sub> =1.2A, I <sub>B</sub> =12mA		0.08	0.12	V
V <sub>FEC</sub>	I <sub>FEC</sub> =6A		1.25	1.5	V
ES/B	L=10mA	45			mJ

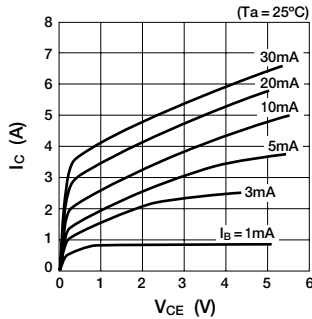
## External Dimensions T0220S



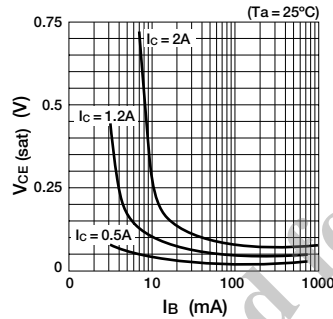
## Typical Switching Characteristics

V <sub>CC</sub> (V)	R <sub>L</sub> (Ω)	V <sub>BB1</sub> (V)	V <sub>BB2</sub> (V)	I <sub>c</sub> (A)	I <sub>B1</sub> (mA)	I <sub>B2</sub> (mA)	t <sub>on</sub> (μs)	t <sub>stg</sub> (μs)	t <sub>f</sub> (μs)
12	12	10	-5	1	30	-30	0.2typ	5.7typ	0.4typ

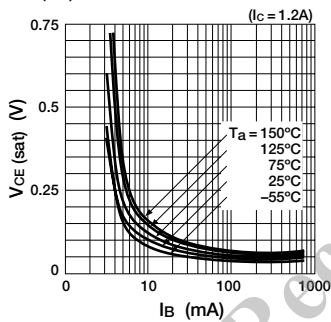
■ I<sub>c</sub>—V<sub>CE</sub> Characteristics (typ.)



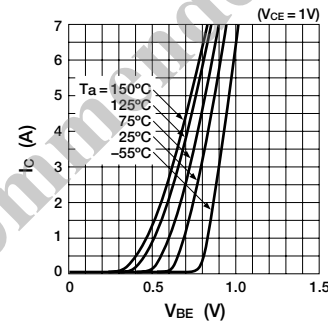
■ V<sub>CE(sat)</sub>—I<sub>B</sub> Characteristics (typ.)



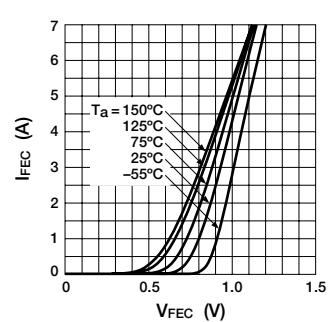
■ V<sub>CE(sat)</sub>—I<sub>B</sub> Temperature Characteristics (typ.)



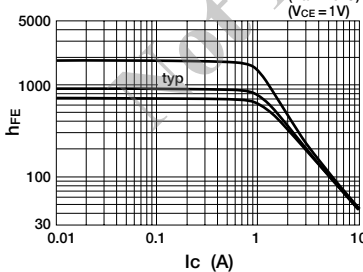
■ I<sub>c</sub>—V<sub>BE</sub> Temperature Characteristics (typ.)



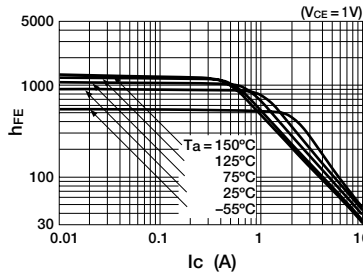
■ I<sub>FEC</sub>—V<sub>FEC</sub> Temperature Characteristics (typ.)



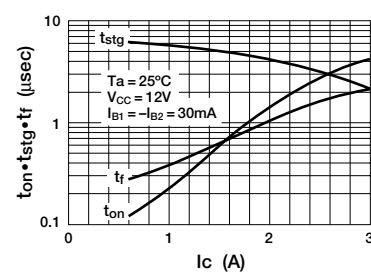
■ h<sub>FE</sub>—I<sub>c</sub> Characteristics (typ.)



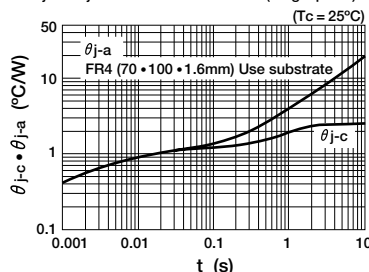
■ h<sub>FE</sub>—I<sub>c</sub> Temperature Characteristics (typ.)



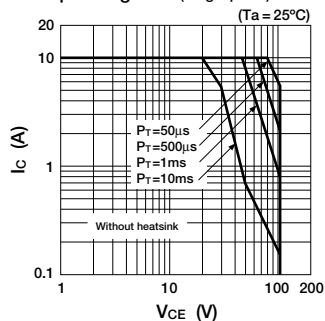
■ t<sub>on</sub>•t<sub>stg</sub>•t<sub>f</sub>—I<sub>c</sub> Characteristics (typ.)



■ θ<sub>j-c</sub>•θ<sub>j-a</sub>—t Characteristics (Single pulse)



■ Safe Operating Area (Single pulse)



■ P<sub>T</sub>—T<sub>a</sub> Derating

