

# Power Transistor 2SD2382

## Absolute Maximum Ratings (Ta=25°C)

Symbol	Ratings	Unit
V <sub>CB0</sub>	65±5	V
V <sub>CE0</sub>	65±5	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>	30 (T <sub>C</sub> =25°C)	W
T <sub>J</sub>	150	°C
T <sub>stg</sub>	-55 to +150	°C

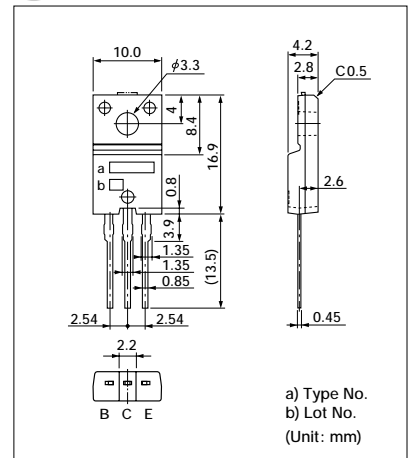
## Electrical Characteristics (Ta=25°C)

Symbol	Test Conditions	Ratings	Unit
I <sub>CB0</sub>	V <sub>CB</sub> = 60V	10max	μA
I <sub>EB0</sub>	V <sub>EB</sub> = 6V	10max	μA
V <sub>CE0</sub>	I <sub>C</sub> = 50mA	60 to 70	V
h <sub>FE</sub>	V <sub>CE</sub> = 1V, I <sub>C</sub> = 1A	700 to 3000	
V <sub>CE(sat)</sub>	I <sub>C</sub> = 1.5A, I <sub>B</sub> = 15mA	0.15max	V
V <sub>FEC</sub>	I <sub>FEC</sub> = 6A	1.5max	V
Es/b	L = 10mH, single pulse	200min	mJ

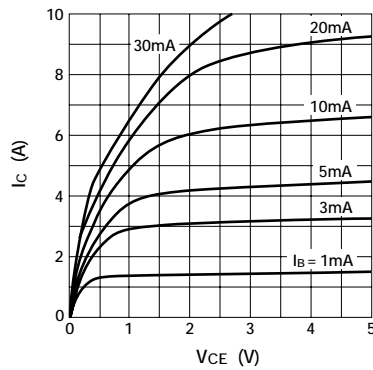
## Typical Switching Characteristics

V <sub>CC</sub> (V)	R <sub>L</sub> (Ω)	I <sub>C</sub> (A)	V <sub>BB1</sub> (V)	V <sub>BB2</sub> (V)	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	1	10	-5	30	-30	0.25	0.8	0.35

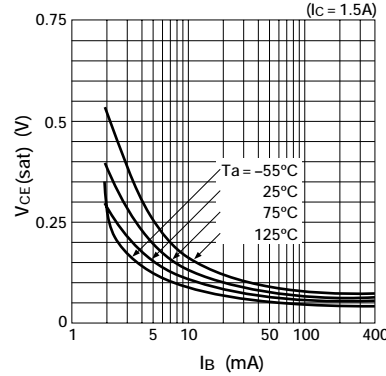
## External Dimensions FM20 (full-mold)



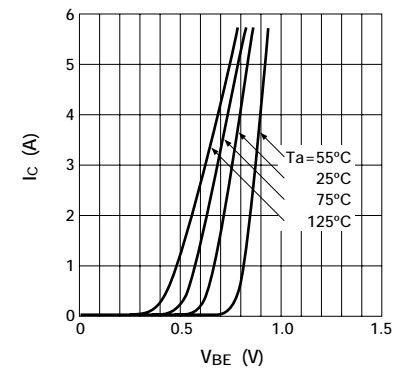
■ I<sub>C</sub>—V<sub>CE</sub> Characteristics (typ.)



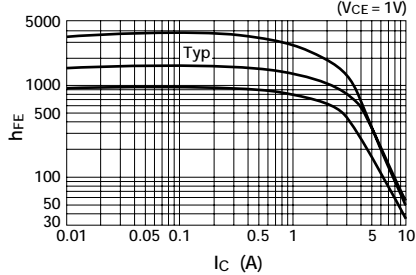
■ V<sub>CE(sat)</sub>—I<sub>B</sub> Temperature Characteristics (typ.)



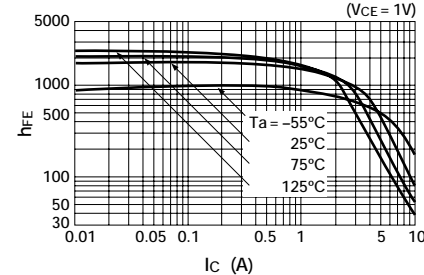
■ I<sub>C</sub>—V<sub>BE</sub> Temperature Characteristics (typ.)



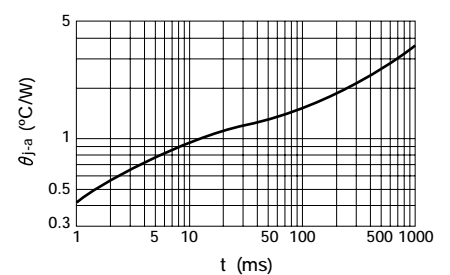
■ h<sub>FE</sub>—I<sub>C</sub> Characteristics (typ.)



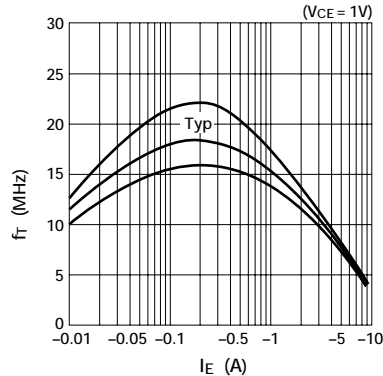
■ h<sub>FE</sub>—I<sub>C</sub> Temperature Characteristics (typ.)



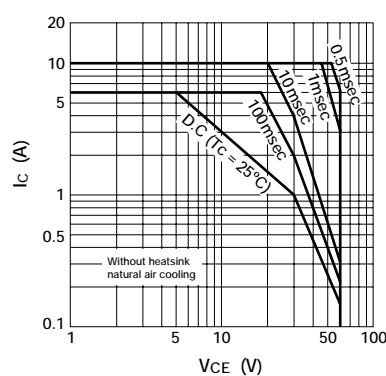
■ θ<sub>j-a</sub>—t Characteristics



■ f<sub>T</sub>—I<sub>E</sub> Characteristics (typ.)



■ Safe Operating Area (single pulse)



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

