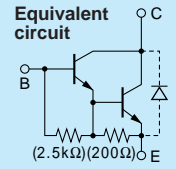


# Darlington 2SD1785



Silicon NPN Triple Diffused Planar Transistor (Complement to type 2SB1258)

Application : Driver for Solenoid, Relay and Motor, Series Regulator, and General Purpose

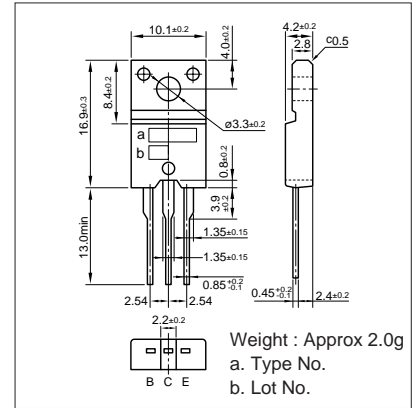
**Absolute maximum ratings** (Ta=25°C)

Symbol	2SD1785	Unit
Vcbo	120	V
Vceo	120	V
Vebo	6	V
Ic	6(Pulse10)	A
Ib	1	A
Pc	30(Tc=25°C)	W
Tj	150	°C
Tstg	-55 to +150	°C

**Electrical Characteristics** (Ta=25°C)

Symbol	Conditions	2SD1785	Unit
Icbo	VcB=120V	10max	μA
Iebo	VEB=6V	10max	mA
V(BR)CEO	Ic=10mA	120min	V
hFE	VCE=2V, Ic=3A	2000min	
VCE(sat)	Ic=2A, Ib=3mA	1.5max	V
fr	VCE=12V, IE=-0.1A	100typ	MHz
COB	VcB=10V, f=1MHz	70typ	pF

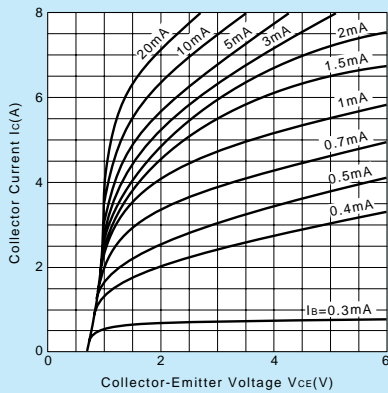
**External Dimensions FM20(TO220F)**



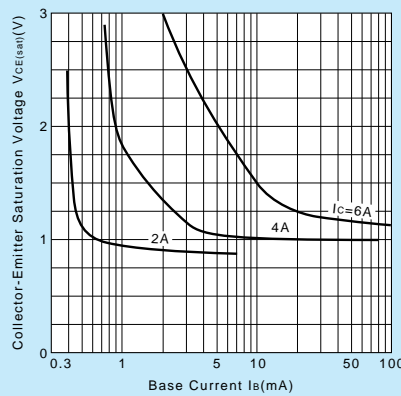
**Typical Switching Characteristics (Common Emitter)**

VCC (V)	RL (Ω)	Ic (A)	VBB1 (V)	VBB2 (V)	Ib1 (mA)	Ib2 (mA)	ton (μs)	tstg (μs)	tf (μs)
30	10	3	10	-1.5	3	-3	0.5typ	5.5typ	1.5typ

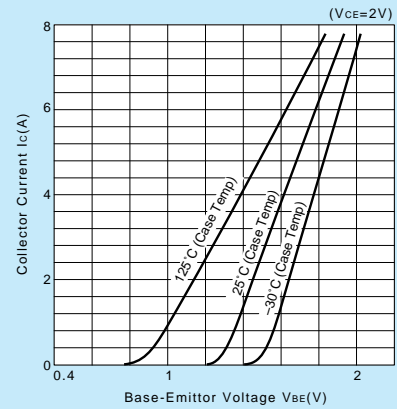
**Ic-VCE Characteristics (Typical)**



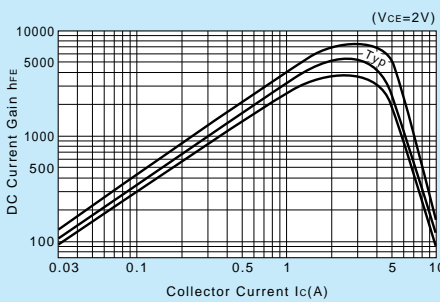
**VCE(sat)-Ib Characteristics (Typical)**



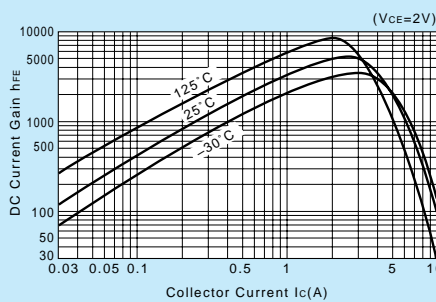
**Ic-VBE Temperature Characteristics (Typical)**



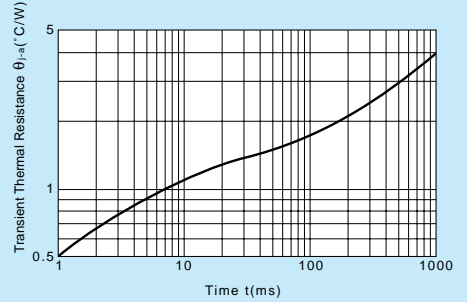
**hFE-Ic Characteristics (Typical)**



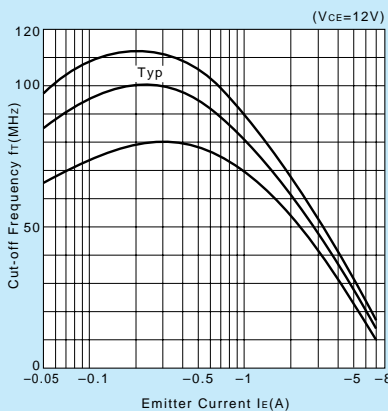
**hFE-Ic Temperature Characteristics (Typical)**



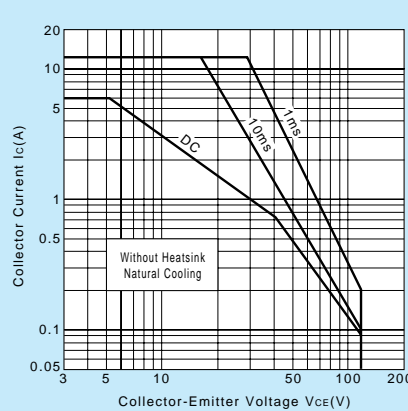
**θj-a-t Characteristics**



**fr-IE Characteristics (Typical)**



**Safe Operating Area (Single Pulse)**



**Pc-Ta Derating**

