

Darlington 2SD2589

Silicon NPN Triple Diffused Planar Transistor (Complement to type 2SB1659)

Application : Audio, Series Regulator and General Purpose

Absolute maximum ratings (Ta=25°C)

Symbol	2SD2589	Unit
VCBO	110	V
VCEO	110	V
VEBO	5	V
IC	6	A
IB	1	A
PC	50(Tc=25°C)	W
Tj	150	°C
Tstg	-55 to +150	°C

Electrical Characteristics (Ta=25°C)

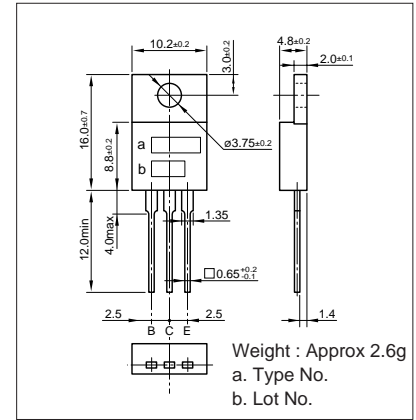
Symbol	Conditions	2SD2589	Unit
ICBO	VCB=110V	100max	μA
IEBO	VEB=5V	100max	μA
V(BR)CEO	IC=30mA	110min	V
hFE	VCE=4V, IC=5A	5000min*	
VCE(sat)	IC=5A, IB=5mA	2.5max	V
VBE(sat)	IC=5A, IB=5mA	3.0max	V
fr	VCE=12V, IE=-0.5A	60typ	MHz
COB	VCB=10V, f=1MHz	55typ	pF

*hFE Rank \bar{O} (5000 to 12000), P(6500 to 20000), Y(15000 to 30000)

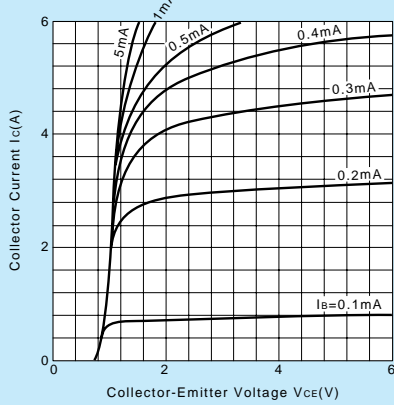
Typical Switching Characteristics (Common Emitter)

VCC (V)	RL (Ω)	IC (A)	VBB1 (V)	VBB2 (V)	IB1 (mA)	IB2 (mA)	ton (μs)	tstg (μs)	tr (μs)
30	6	5	10	-5	5	-5	0.8typ	6.2typ	1.1typ

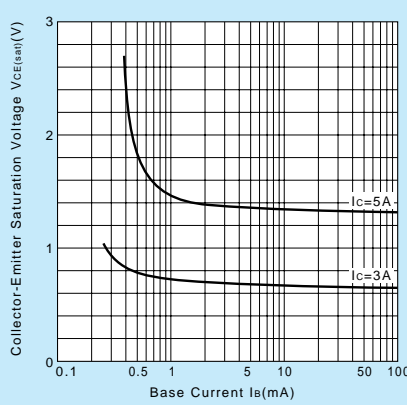
External Dimensions FM-25(TO220)



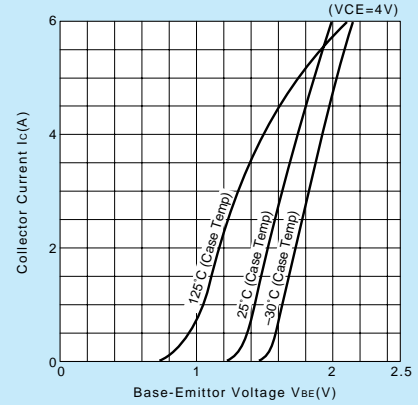
IC-VCE Characteristics (Typical)



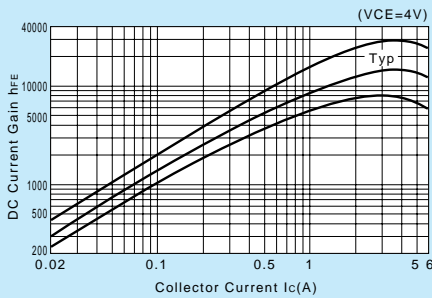
VCE(sat)-IB Characteristics (Typical)



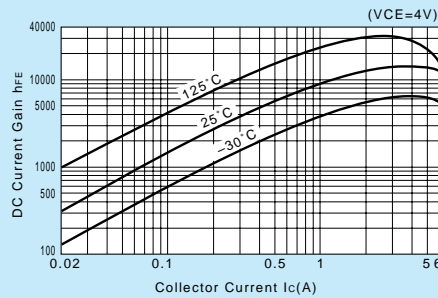
IC-VBE Temperature Characteristics (Typical)



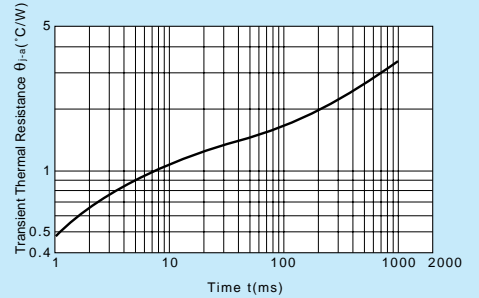
hFE-IC Characteristics (Typical)



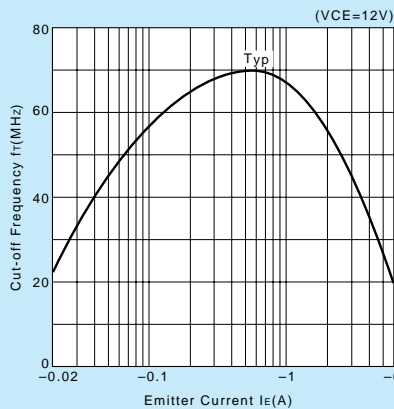
hFE-IC Temperature Characteristics (Typical)



θj-a-t Characteristics



fT-IE Characteristics (Typical)



Safe Operating Area (Single Pulse)

PC-Ta Derating

