

Features

- Low collector saturation voltage
- High break down voltage
- High total power dissipation



SOT-89-3L

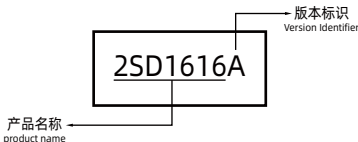
Absolute Maximum Ratings($T_A=25^{\circ}\text{C}$)

Symbol	Parameter	Value	Unit
V_{CB0}	Collector-Base Voltage	120	V
V_{CE0}	Collector-Emitter Voltage	60	V
V_{EB0}	Emitter-Base Voltage	6	V
I_C	Collector Current	1	A
$P_C^{(2)}$	Collector Power Dissipation	0.5	W
$P_{\theta JA}^{(2)}$	Thermal Resistance, junction to Ambient	250	$^{\circ}\text{C/W}$
$P_{\theta JC}^{(1)}$	Thermal Resistance, junction to Case	10	$^{\circ}\text{C/W}$
T_J, T_{stg}	Operation Junction And Storage Temperature Range	-55 ~ +150	$^{\circ}\text{C}$

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Test conditions	Min	Max	Typ	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=10\mu\text{A}, I_E=0$	120			V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=2\text{mA}, I_B=0$	60			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=10\mu\text{A}, I_C=0$	6			V
I_{CBO}	Collector cut-off current	$V_{CB}=60\text{V}, I_E=0$			0.1	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=6\text{V}, I_C=0$			0.1	μA
h_{FE1}	DC current gain	$V_{CE}=2\text{V}, I_C=100\text{mA}$	135		600	
h_{FE2}		$V_{EB}=2\text{V}, I_C=1\text{A}$	81			
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C=1\text{A}, I_B=50\text{mA}$			0.3	V
$V_{BE(sat)}$	Base-emitter saturation voltage	$I_C=1\text{A}, I_B=50\text{mA}$			1.2	V
V_{BE}	Base-emitter voltage	$V_{CE}=2\text{V}, I_C=50\text{mA}$	0.6		0.7	V
f_T	Transition frequency	$V_{CE}=2\text{V}, I_C=100\text{mA}$	100			MHz
C_{ob}	Collector output capacitance	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$			19	pF
t_{on}	Turn on time	$V_{CC}=10\text{V}, I_C=100\text{mA}, I_{B1}=-I_{B2}=10\text{mA}$		0.07		μs
t_s	Storage time			0.95		μs
t_F	Fall time			0.07		μs

Ordering information

Product ID	Pack	Naming rule	Marking	$h_{FE}(1)$	Qty(PCS)
2SD1616A	SOT-89-3L		1616A	200-400	1000

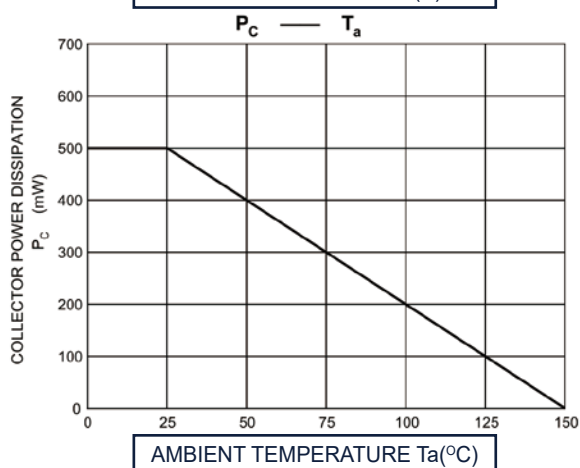
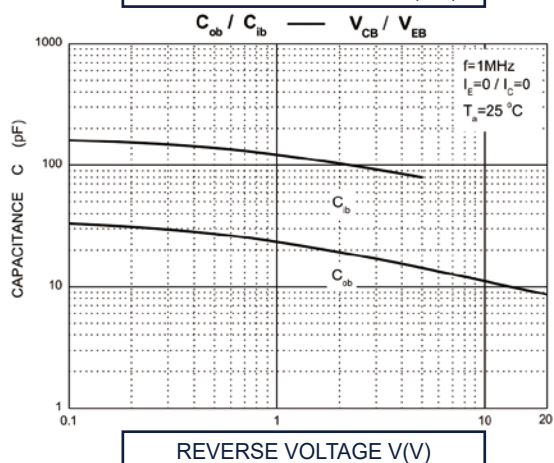
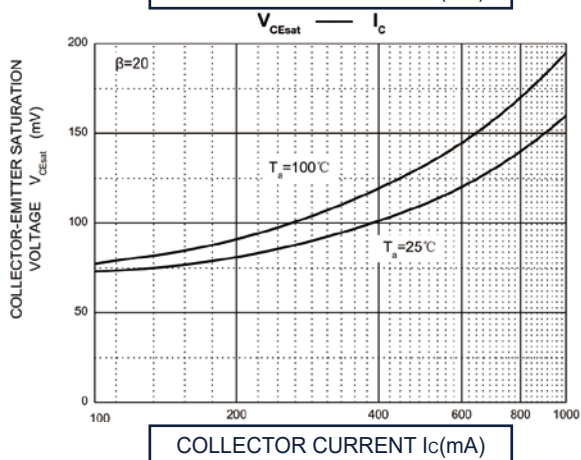
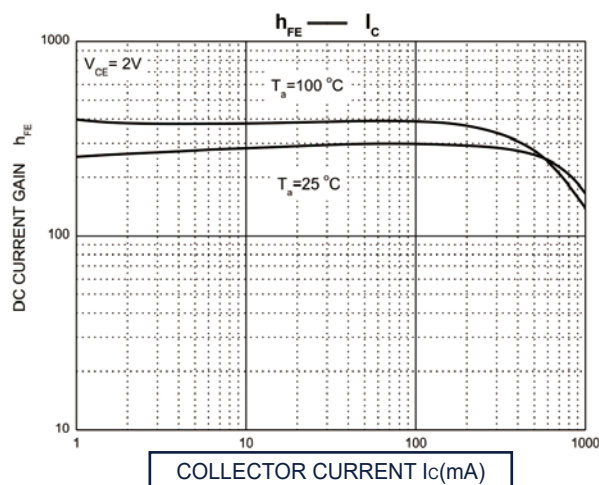
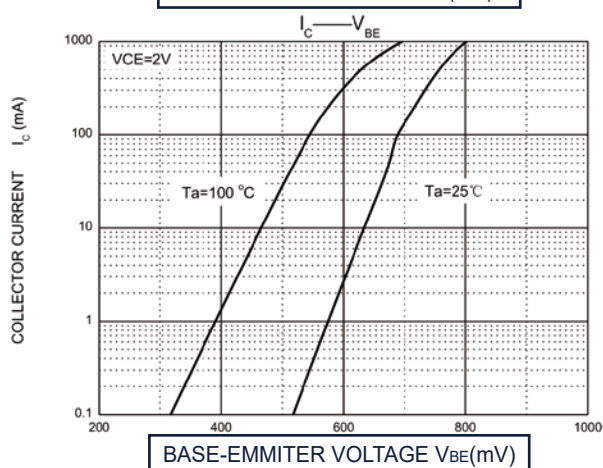
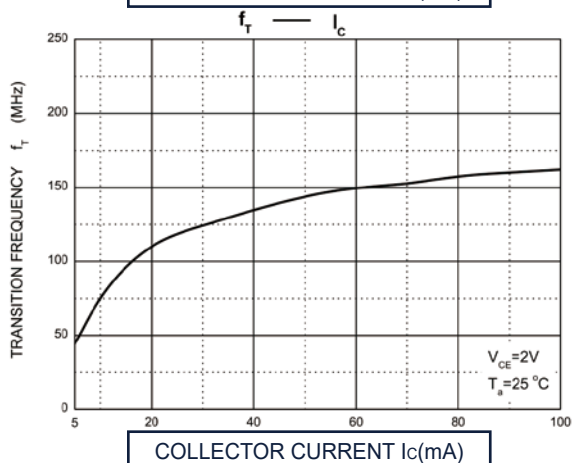
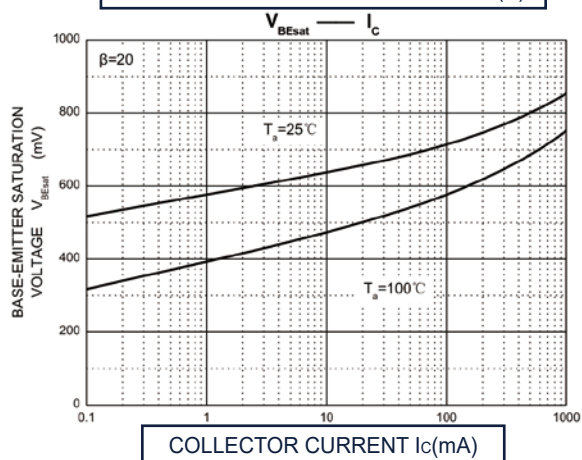
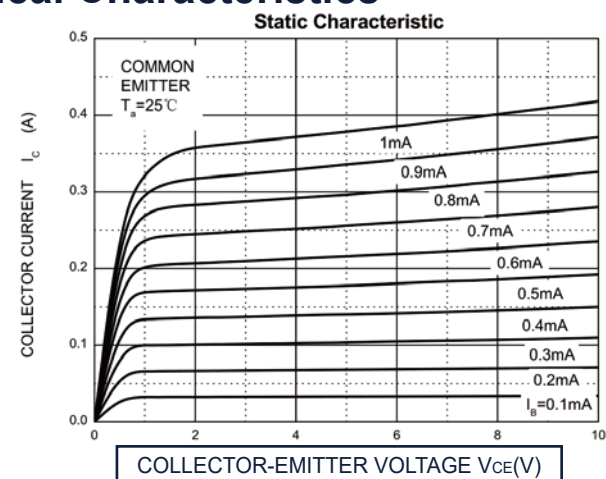


TWTLSEMI

TL-2SD1616A

SOT-89-3L Plastic-Encapsulate Transistors (NPN)

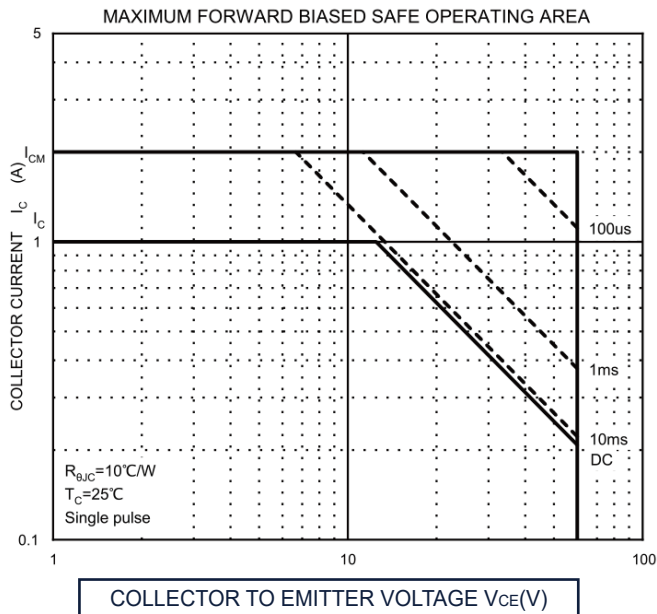
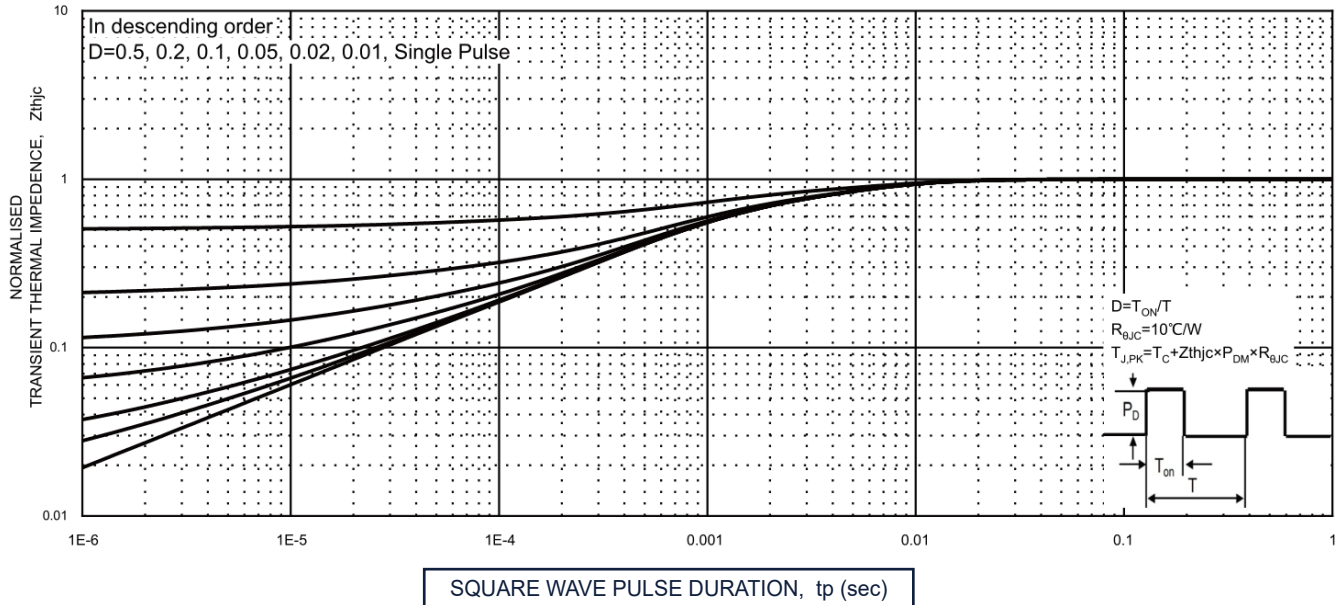
Typical Characteristics





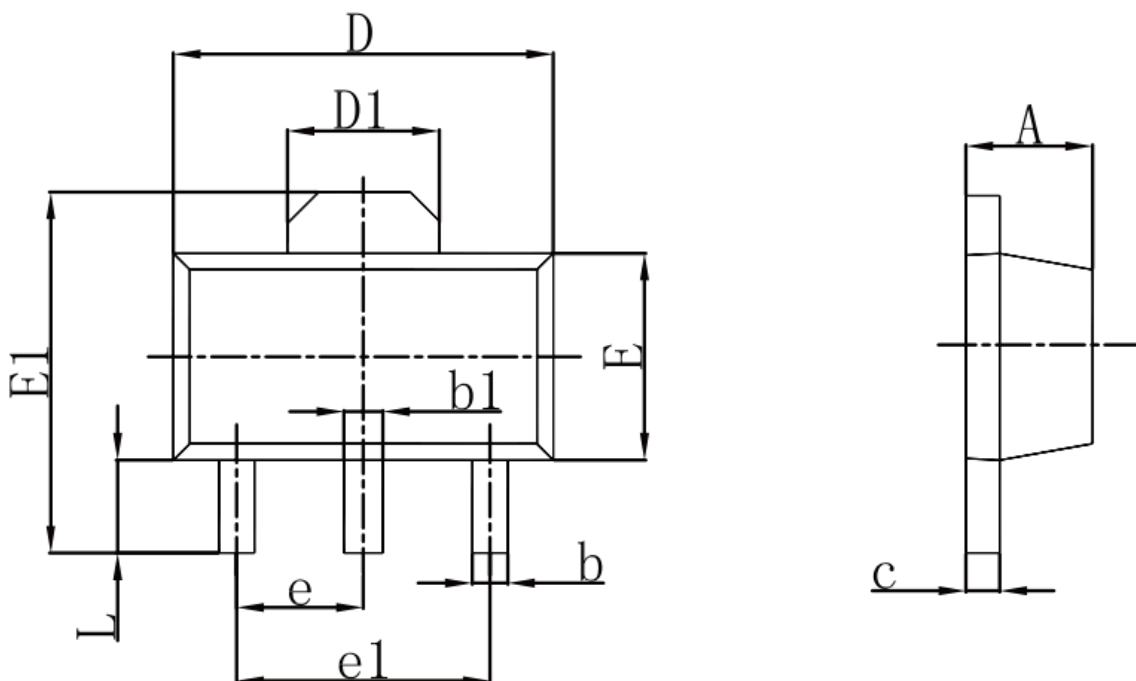
Typical Characteristics

NORMALISED TRANSIENT THERMAL IMPEDANCE





SOT-89-3L Package Outline Dimensions



Symbol	Dimensions in Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF.		0.061 REF.	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP.		0.060 TYP.	
e1	3.000 TYP.		0.118 TYP.	
L	0.900	1.200	0.035	0.047