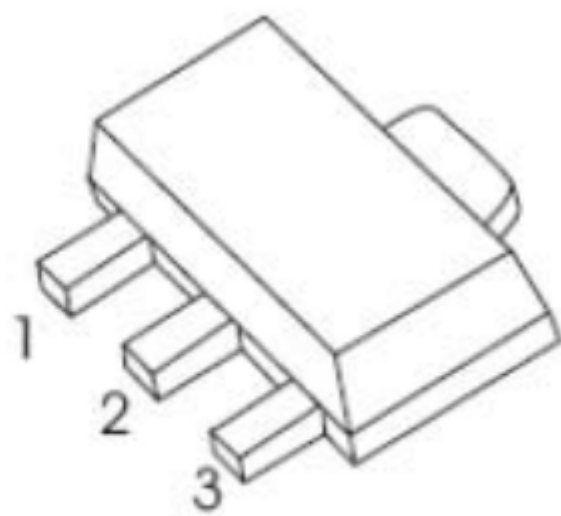


Features

- Low voltage(max.40V).
- Complement:TPPXT3904



1. BASE
2. COLLECT
3. EMITTER

SOT-89

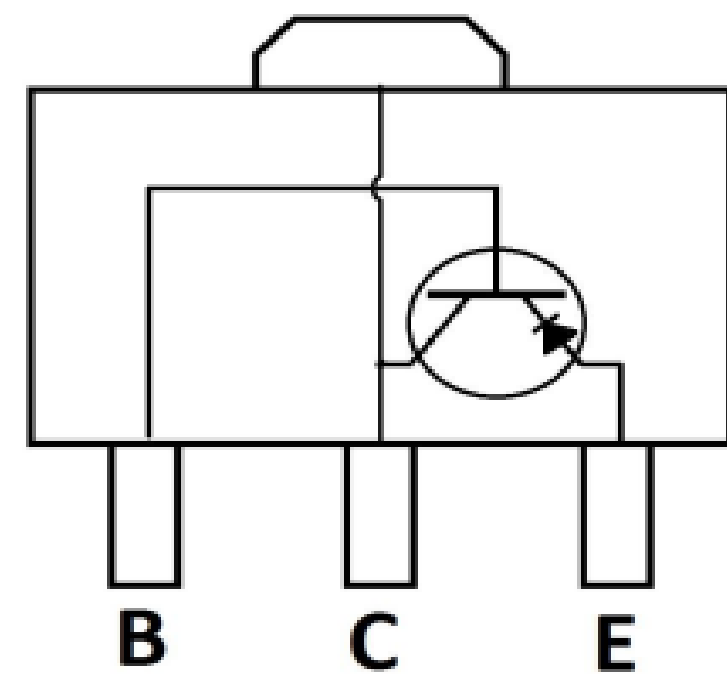
Applications

- High-speed saturated switching amplification.

Ordering Information

- Shipping Qty:1000 /7inch Tape& Reel

Circuit Diagram



Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-40	V
V_{EBO}	Emitter-Base Voltage	-6	V
I_C	Collector Current -Continuous	-100	mA
I_{CM}	Peak Collector Current	-200	mA
I_{BM}	Peak Base Current	-100	mA
P_D	Total Device Dissipation	450	mW
T_J, T_{stg}	Junction and Storage Temperature	-65 to +150	°C

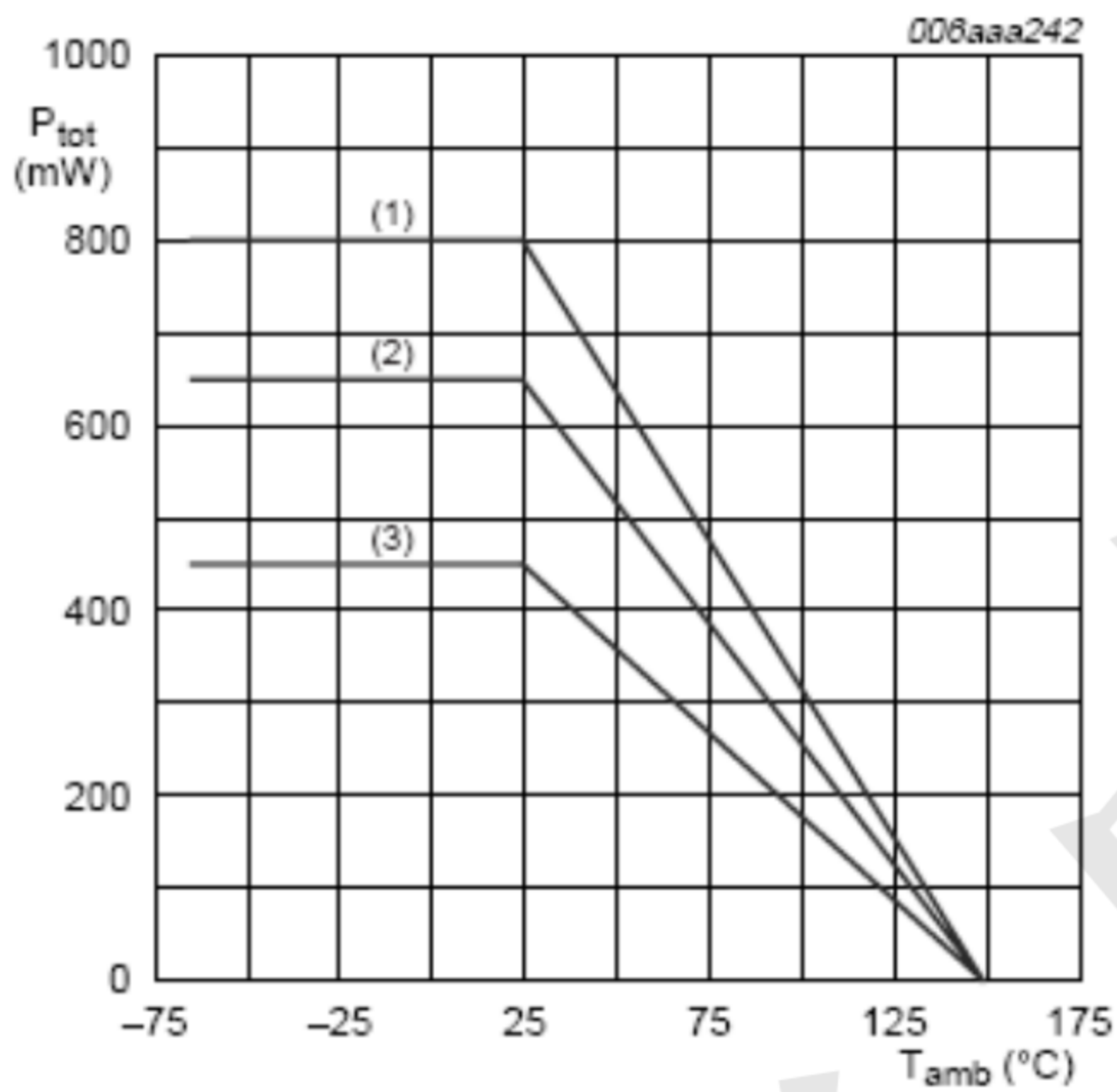
Electrical Characteristics (TA=25°C unless otherwise specified)

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Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -10\mu A$ $I_E = 0$	-40		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1mA$ $I_B = 0$	-40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -10\mu A$ $I_C = 0$	-6		μV
Collector cut-off current	I_{CBO}	$V_{CB} = -30V$ $I_E = 0$		-50	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = -6V$, $I_C = 0$		-50	nA
DC current gain	h_{FE}	$V_{CE} = -1V$ $I_C = -100\mu A$	60	-	
		$V_{CE} = -1V$ $I_C = -1mA$	80	-	
		$V_{CE} = -1V$ $I_C = -10mA$	100	300	
		$V_{CE} = -1V$ $I_C = -50mA$	60	-	
		$V_{CE} = -1V$ $I_C = -100mA$	30	-	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -10mA$ $I_B = -1mA$ $I_C = -50mA$ $I_B = -5mA$		-0.25 -0.4	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -10mA$ $I_B = -1mA$ $I_C = -50mA$ $I_B = -5mA$	-0.65	-0.85 -0.95	V
Transition frequency	f_T	$V_{CE} = -20V$, $I_C = -10mA$, $f = 100MHz$	250	-	MHz
Collector Capacitance	C_c	$V_{CB} = -5V$, $f = 1MHz$, $I_E = 0$	-	4.5	pF
Emitter Capacitance	C_e	$V_{EB} = -0.5V$, $f = 1MHz$ $I_C = 0$	-	10	pF
Noise Figure	F	$I_C = -100\mu A$, $V_{CE} = -5V$, $R_S = 1k\Omega$, $f = 10Hz$ to $15.7kHz$	-	4	dB
Turn-on Time	T_{on}	$I_{Con} = -10mA$, $I_{Bon} = -1mA$, $I_{Boff} = -1mA$	-	65	ns
Delay Time	t_d		-	35	ns
Rise Time	t_r		-	35	ns
Turn-on Time	t_{off}		-	300	ns
Storage Time	t_s		-	225	ns
Fall Time	t_f		-	75	ns

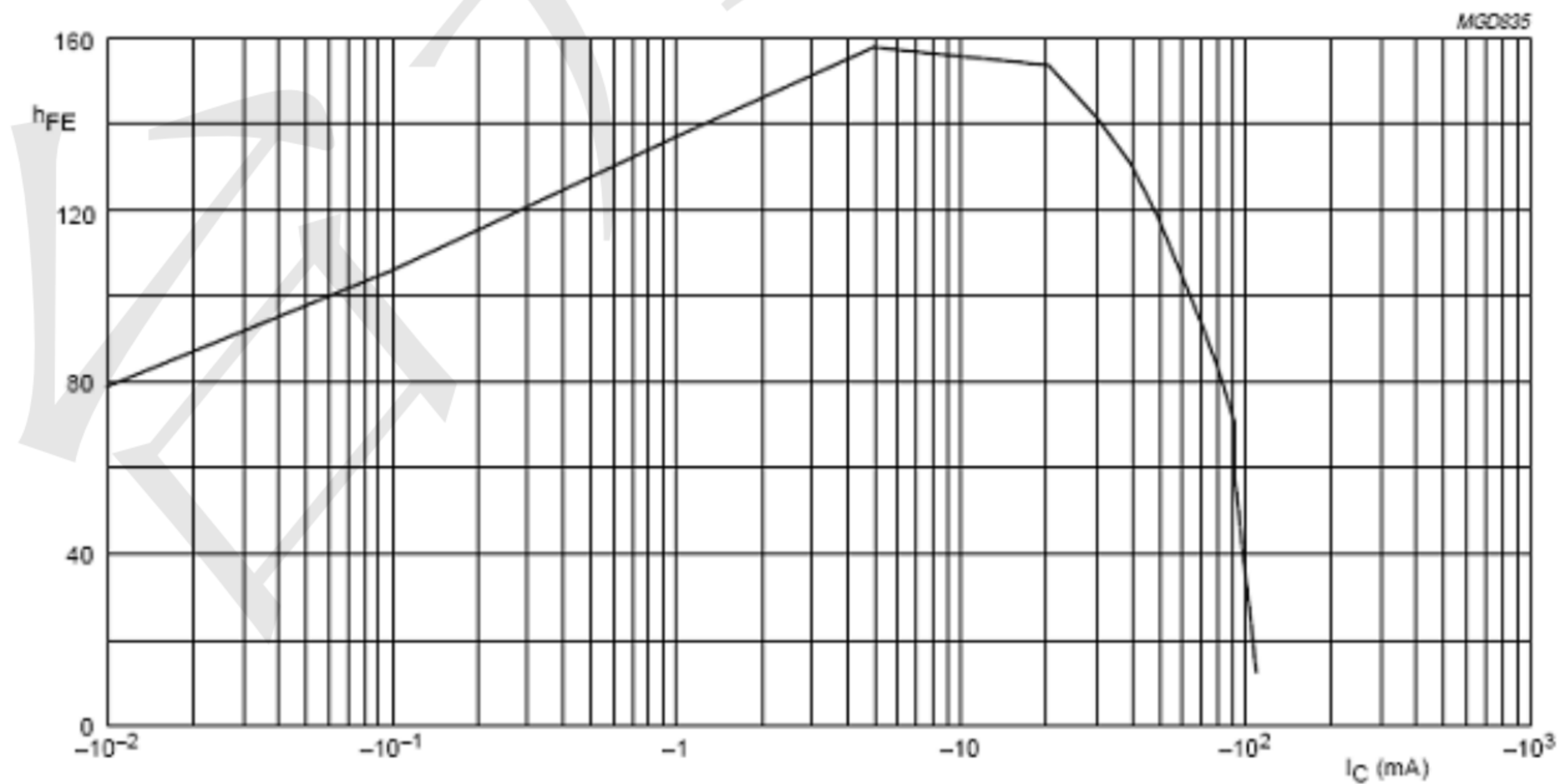


Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)



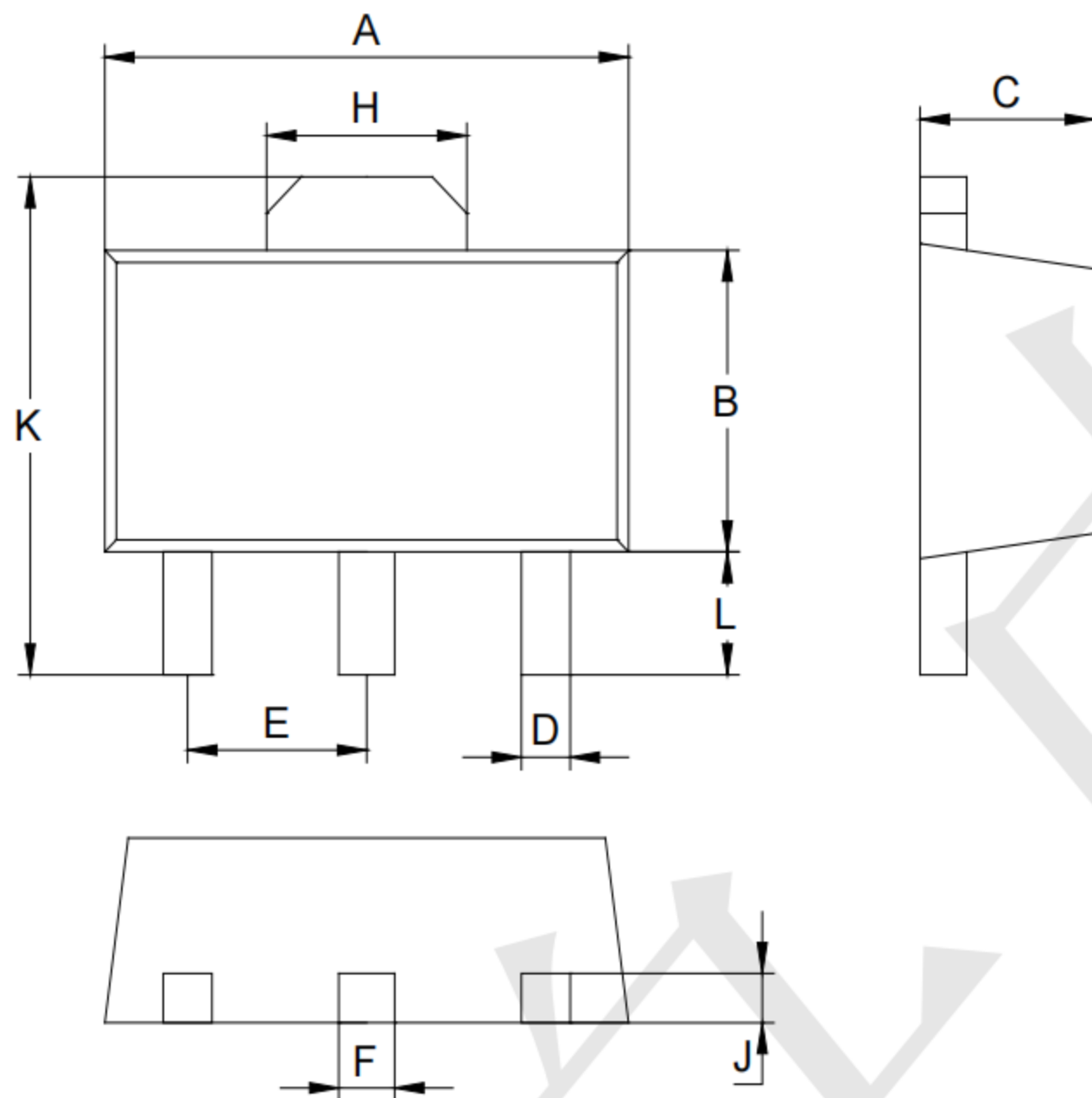
- (1) FR4 PCB; 6 cm^2 mounting pad for collector.
- (2) FR4 PCB; 1 cm^2 mounting pad for collector.
- (3) FR4 PCB; standard footprint.

Power derating curves.



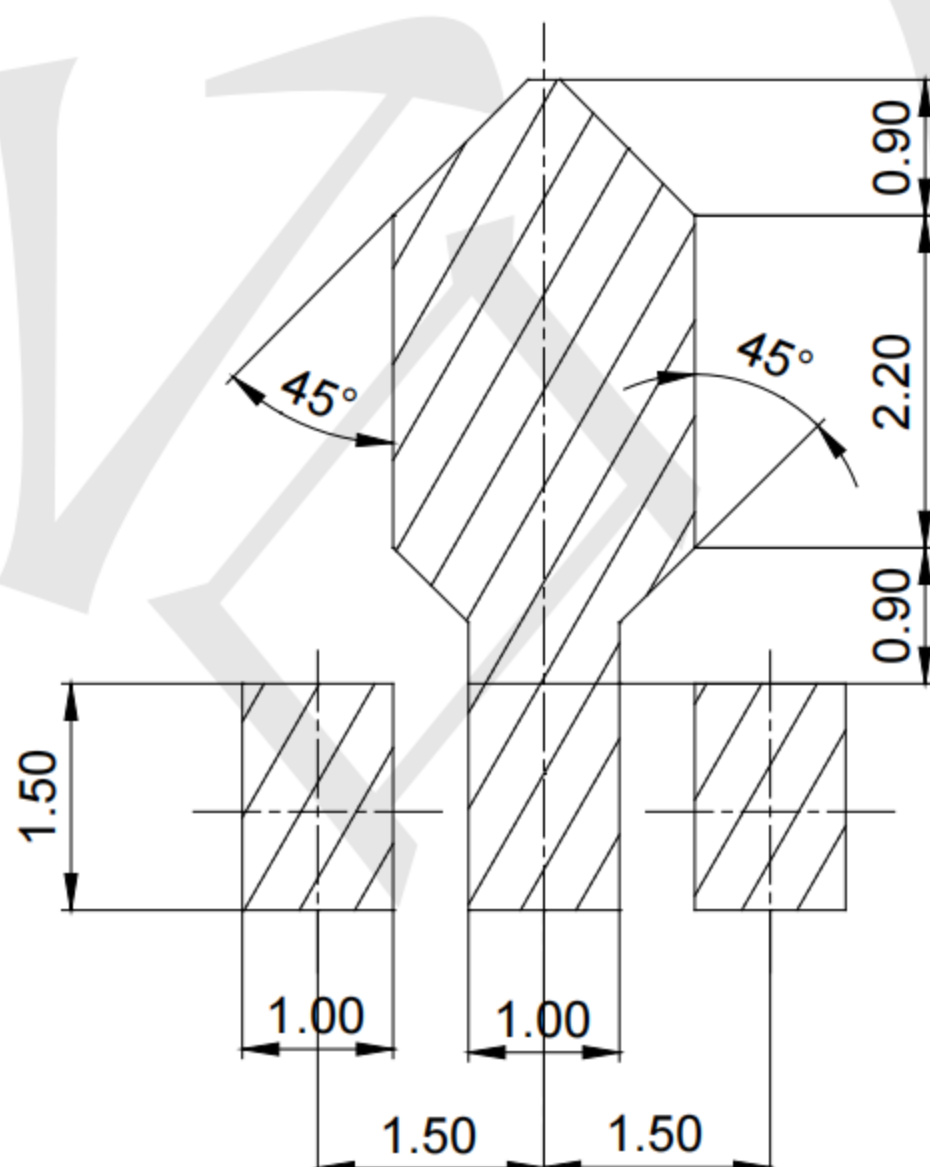
$V_{CE} = -1 \text{ V.}$

Outline Drawing - SOT-89



SOT-89		
Dim	Min	Max
A	4.30	4.70
B	2.25	2.65
C	1.30	1.70
D	0.30	0.50
E	1.40	1.60
F	0.38	0.58
H	1.60	1.80
J	0.30	0.50
L	0.90	1.10
K	3.95	4.35
All Dimensions in mm		

Land Pattern - SOT-89



Unit: mm