

2SB1216, 2SD1816

ELECTRICAL CHARACTERISTICS at Ta = 25°C (Note 2)

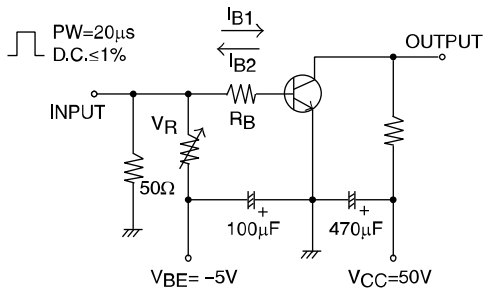
Parameter	Symbol	Conditions	Value			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=(-)100V, I_E=0A$			$(-)1$	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)4V, I_C=0A$			$(-)1$	μA
DC Current Gain	h_{FE1}	$V_{CE}=(-)5V, I_C=(-)0.5A$	140*		400*	
	h_{FE2}	$V_{CE}=(-)5V, I_C=(-)3A$	40			
Gain-Bandwidth Product	f_T	$V_{CE}=(-)10V, I_C=(-)0.5A$		(130) 180		MHz
Output Capacitance	C_{ob}	$V_{CB}=(-)10V, f=1MHz$		(65) 40		pF
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)2A, I_B=(-)0.2A$		$(-200) 150$	$(-500) 400$	mV
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)2A, I_B=(-)0.2A$		$(-) 0.9$	$(-) 1.2$	V
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0A$	$(-)120$			V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	$(-)100$			V
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu A, I_C=0A$	$(-) 6$			V
Turn-On Time	t_{on}	See specified Test Circuit		100		ns
Storage Time	t_{stg}			(800) 900		ns
Fall Time	t_f			50		ns

Note 2 : Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted.
Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

*: The 2SB1216/2SD1816 are classified by 0.5A h_{FE} as follows:

Rank	S	T
h_{FE}	140 to 280	200 to 400

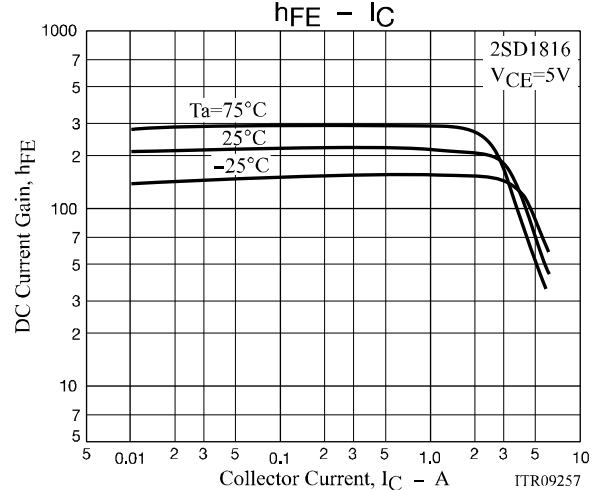
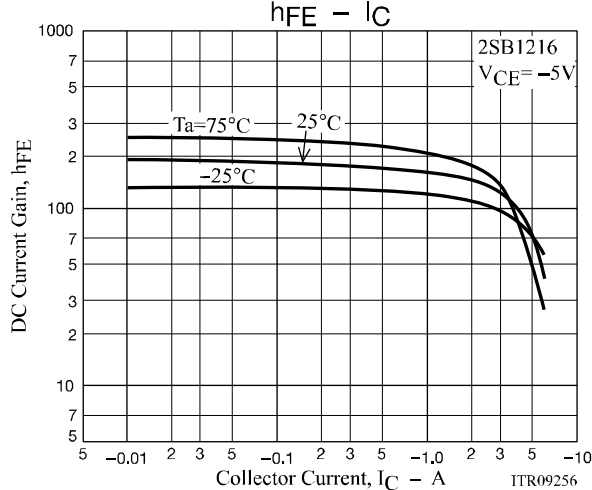
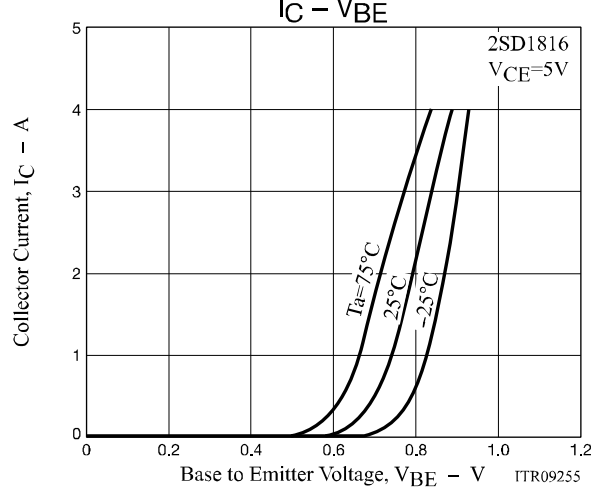
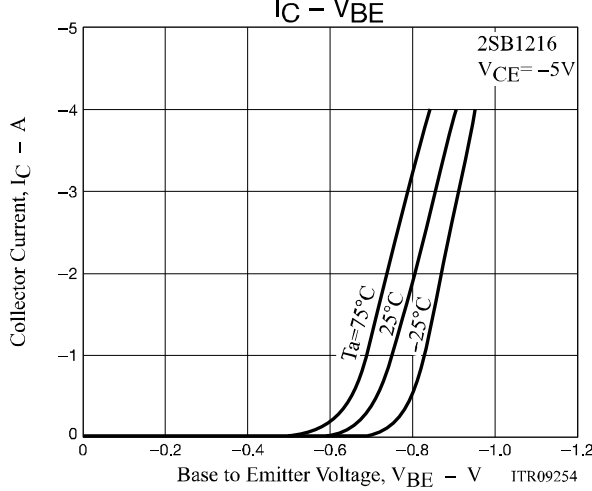
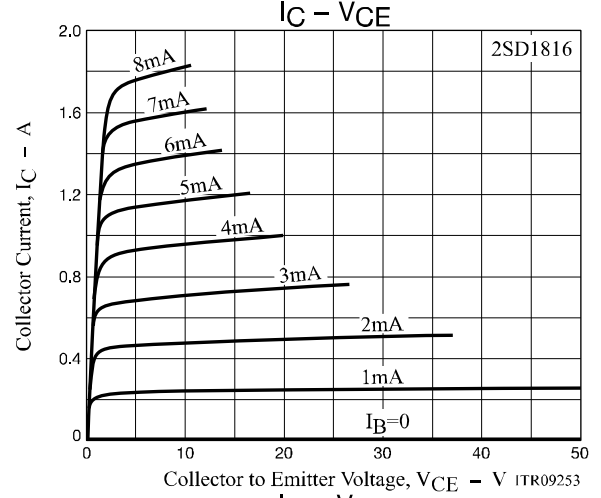
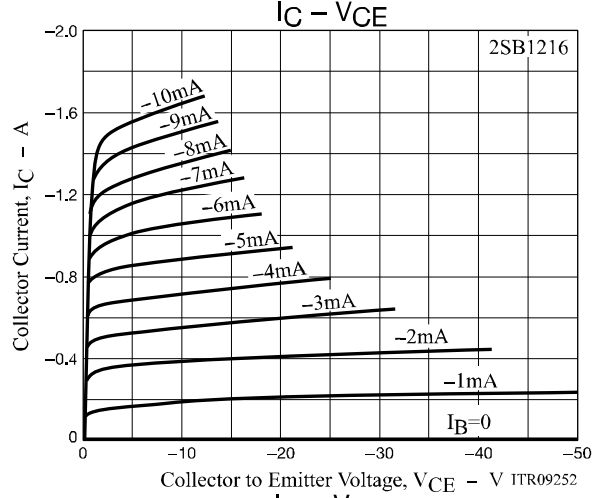
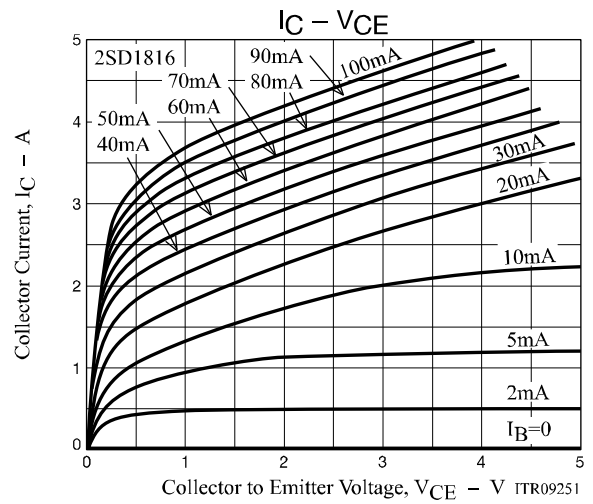
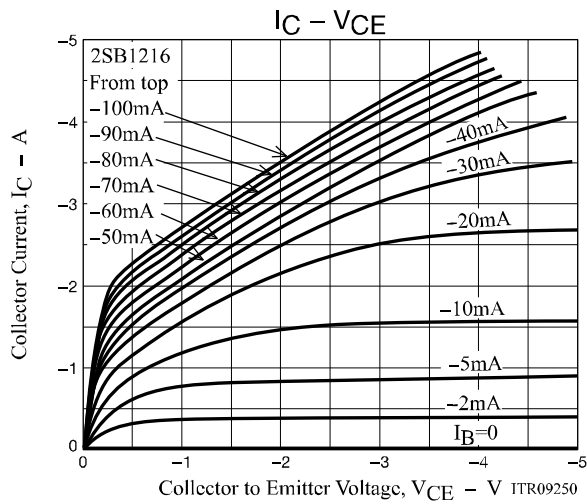
Fig.1 Switching Time Test Circuit



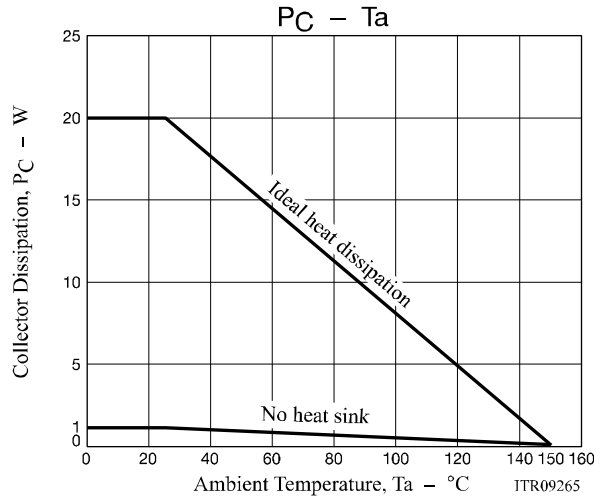
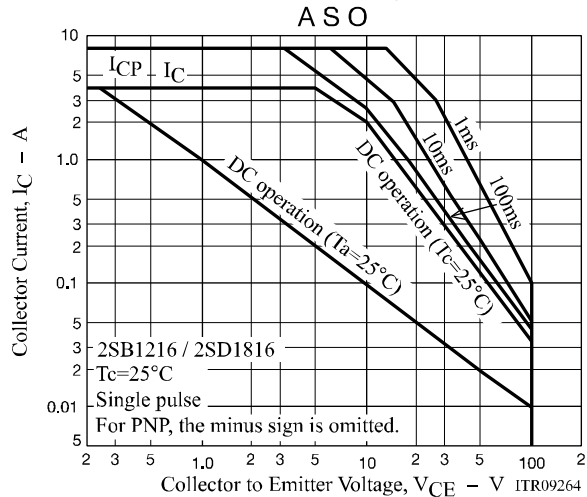
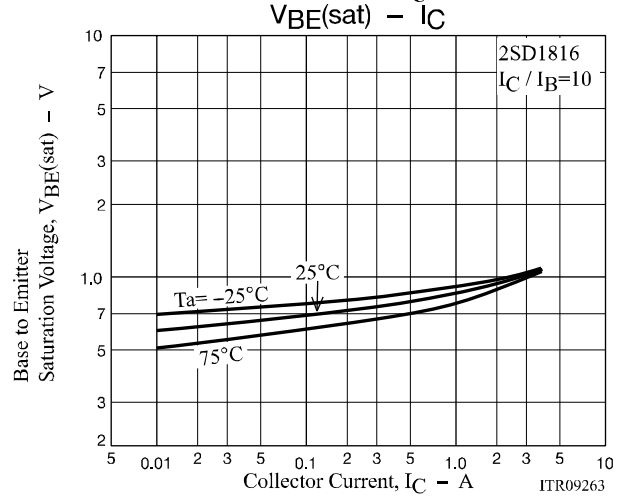
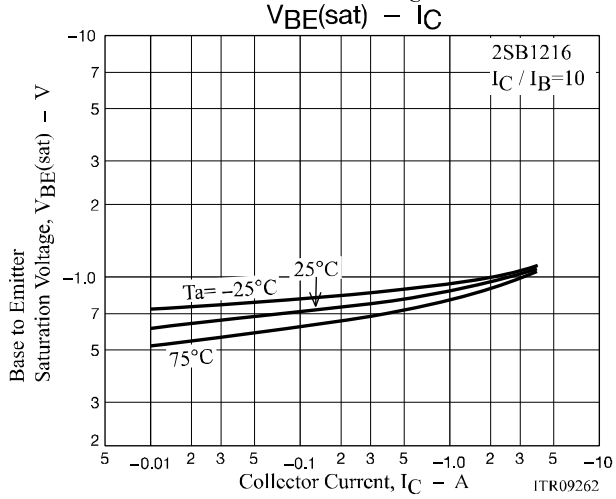
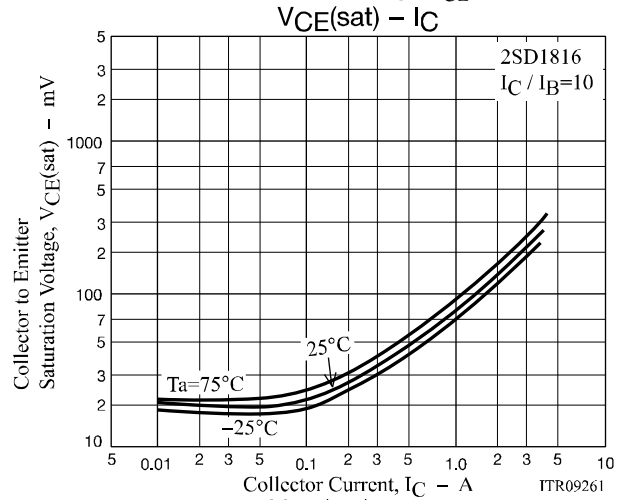
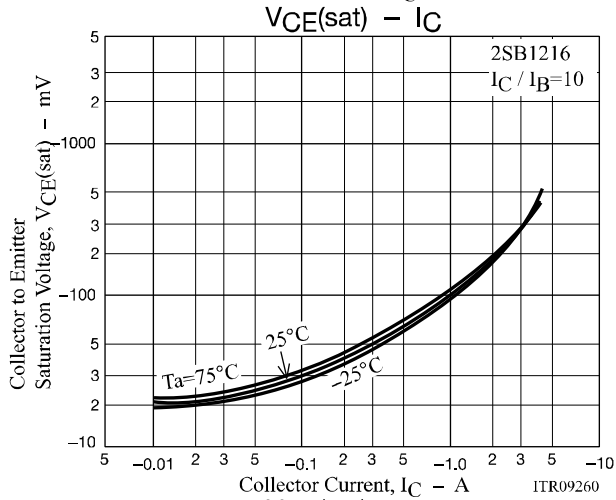
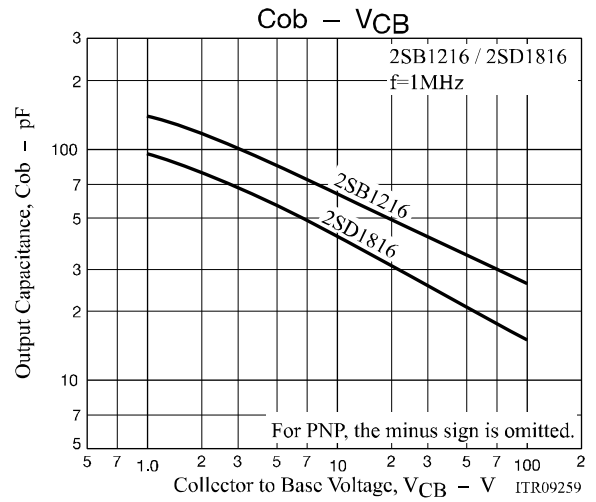
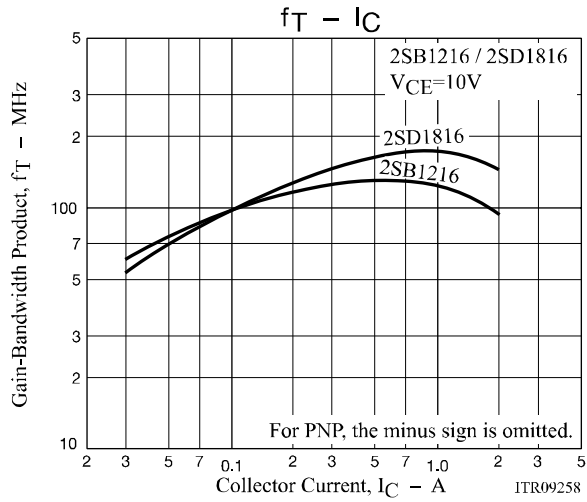
$$I_C = 10I_{B1} = -10I_{B2} = 2A$$

For PNP, the polarity is reversed.

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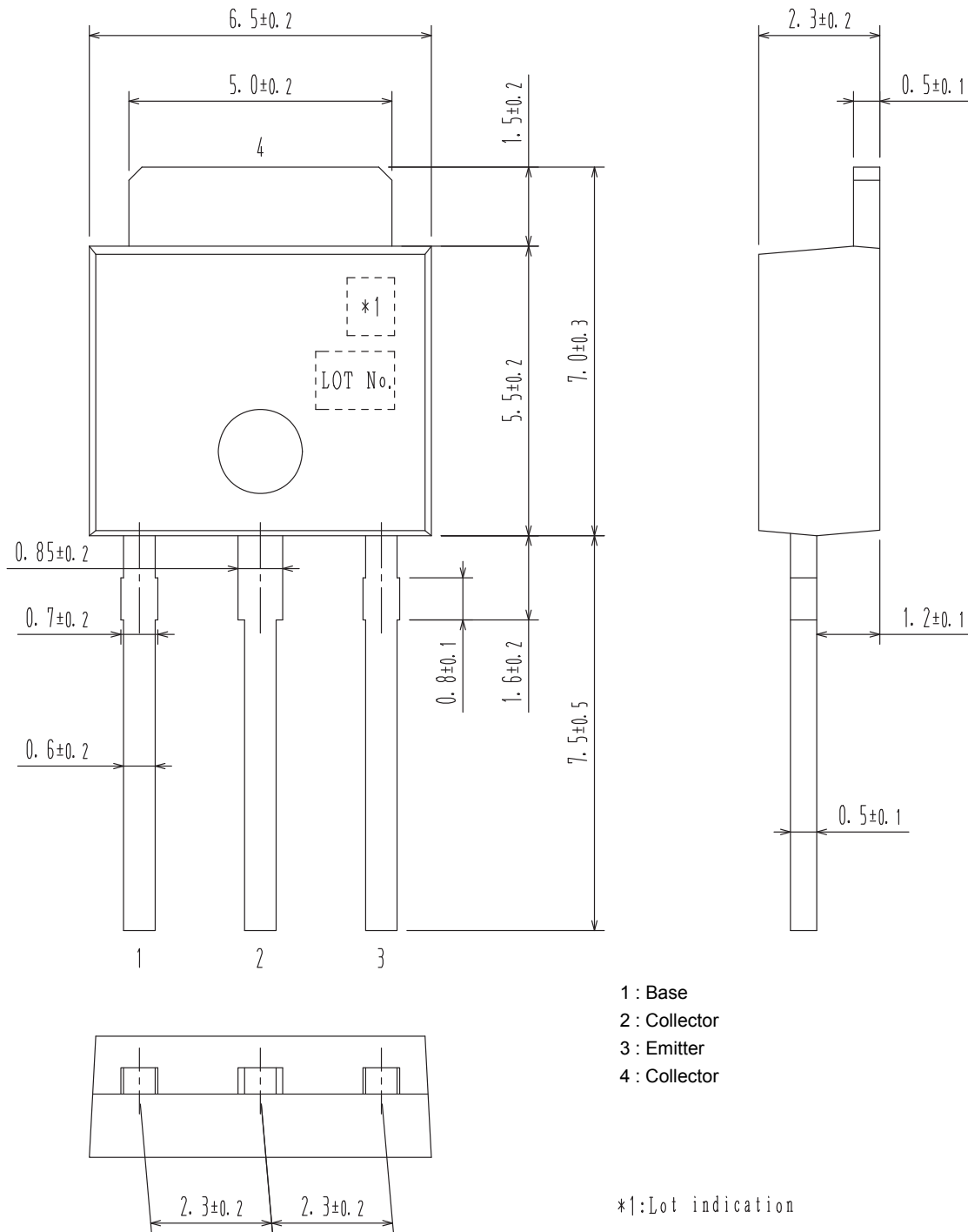
PACKAGE DIMENSIONS

unit : mm

IPAK / TP

CASE 369AJ

ISSUE 0



2SB1216, 2SD1816

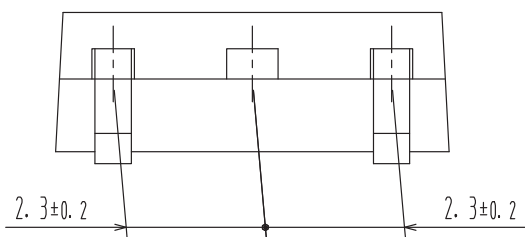
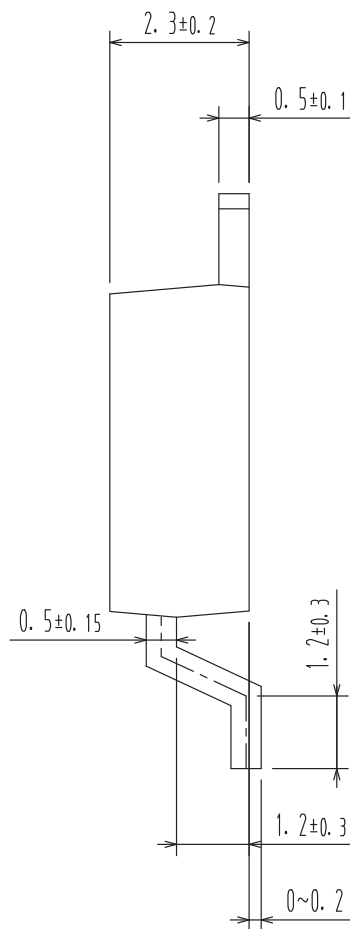
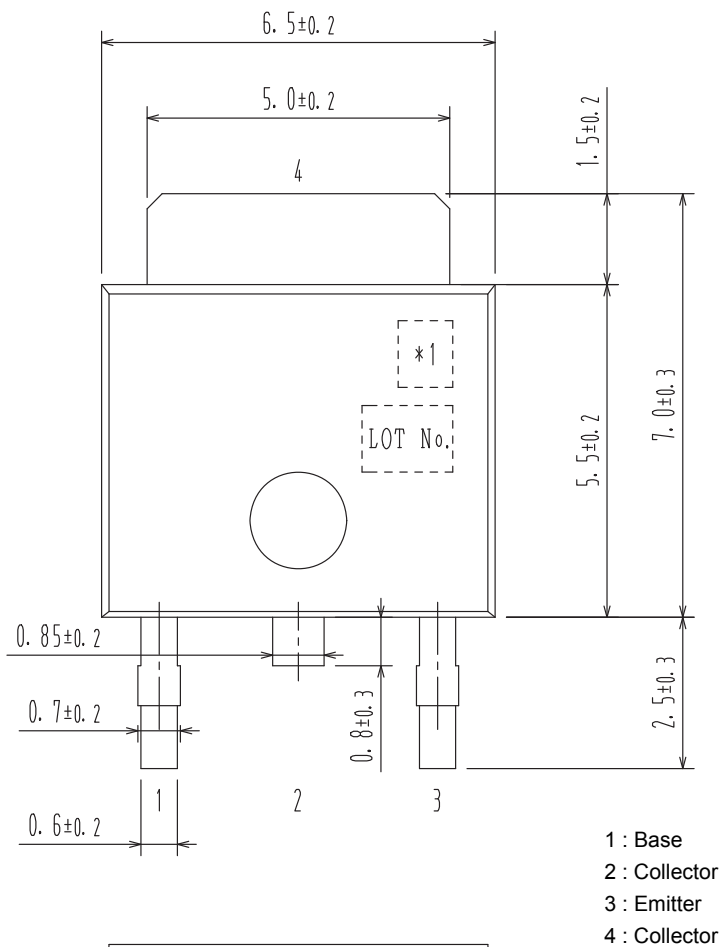
PACKAGE DIMENSIONS

unit : mm

DPAK / TP-FA

CASE 369AH

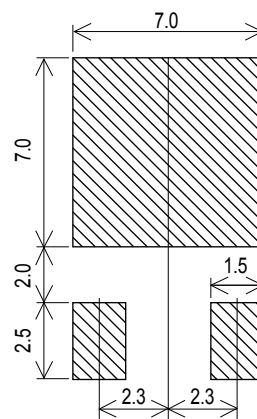
ISSUE 0



Pin 2 is idle pin with electrical designation only carried.

*1: Lot indication

Recommended Soldering Footprint



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ORDERING INFORMATION

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Device	Marking	Package	Shipping (Qty / Packing)
2SB1216S-E	B1216	IPAK / TP (Pb-Free)	500/ bag
2SB1216T-E	B1216		
2SD1816S-E	D1816		
2SD1816T-E	D1816		
2SB1216S-H	B1216	IPAK / TP (Pb-Free / Halogen Free)	
2SB1216T-H	B1216		
2SD1816S-H	D1816		
2SD1816T-H	D1816		
2SB1216S-TL-E	B1216	DPAK / TP-FA (Pb-Free)	700/ Tape & Reel
2SB1216T-TL-E	B1216		
2SD1816S-TL-E	D1816		
2SD1816T-TL-E	D1816		
2SB1216S-TL-H	B1216	DPAK / TP-FA (Pb-Free / Halogen Free)	
2SB1216T-TL-H	B1216		
2SD1816S-TL-H	D1816		
2SD1816T-TL-H	D1816		

† For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D. http://www.onsemi.com/pub_link/Collateral/BRD8011-D.PDF

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