



## NXP 800 mA low $V_{CEsat}$ (BISS) RETs PBRN and PBRP series

### Low $V_{CEsat}$ (BISS) RETs optimized for automotive and industrial applications

Developed specifically for the automotive and industrial markets, these 800 mA resistor-equipped transistors (RETs) combine one or two resistors with a low  $V_{CEsat}$  (BISS) transistor to provide an optimal, integrated solution for digital applications.

#### Key features

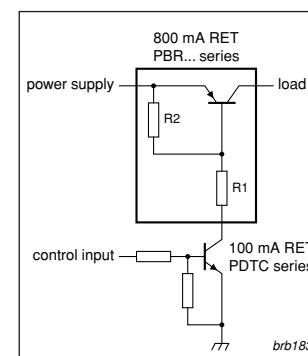
- Built-in bias resistors
- High current gain  $h_{FE}$
- 800 mA repetitive peak output current
- Low collector-emitter saturation voltage  $V_{CEsat}$
- $\pm 10\%$  resistor tolerance
- Four resistor combinations (more on request)

#### Key benefits

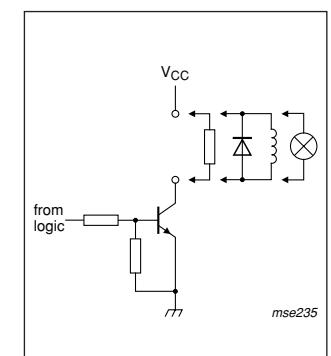
- Lower handling and inventory costs
- Reduced board space
- Shorter assembly times
- Reduced pick-and-place efforts
- Simpler design process
- Increased reliability of end product due to fewer soldering points

#### Applications

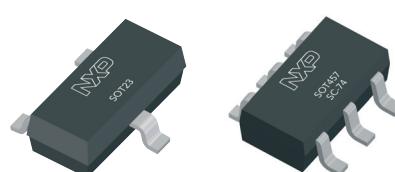
- Digital applications in automotive and industrial segments
- Switching loads
- Controlling IC inputs
- Medium-current peripheral drivers



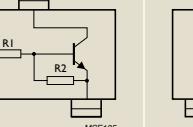
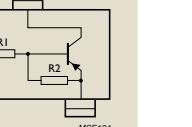
RET combination to build an 800 mA loadswitch



RETs to switch loads up to 800 mA

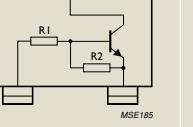
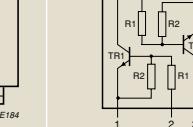


### 800 / 600 mA low $V_{CEsat}$ RETs

Package			SOT23				
Size (mm)			2.9 x 1.3 x 1.0				
$P_{tot}$ (mW)			250				
Polarity			NPN		PNP		
$I_{ORM}$ (mA)	$I_o$ (mA)	$V_{CEO}$ (V)	R1 (k $\Omega$ )	R2 (k $\Omega$ )			
800	600	40	R1 = R2	1.0	1.0	<b>PBRN113ET</b>	<b>PBRP113ET</b>
				2.2	2.2	<b>PBRN123ET</b>	<b>PBRP123ET</b>
			R1 $\neq$ R2	1.0	10	<b>PBRN113ZT</b>	<b>PBRP113ZT</b>
				2.2	10	<b>PBRN123YT</b>	<b>PBRP123YT</b>

**bold** types are included as samples

### 500 mA resistor-equipped transistors (RETs)

Package			SOT23		SOT457 (SC-74)	
Size (mm)			2.9 x 1.3 x 1.0		2.9 x 1.5 x 1.0	
$P_{tot}$ (mW)			250		420	
Polarity			NPN		PNP	
$I_c$ (mA)	$V_{CEO}$ (V)		R1 (k $\Omega$ )	R2 (k $\Omega$ )		
500	50	R1 = R2	1.0	1.0	<b>PDTD113ET</b>	<b>PDTB113ET</b>
			2.2	2.2	<b>PDTD123ET</b>	<b>PDTB123ET</b>
		R1 $\neq$ R2	1.0	10	<b>PDTD113ZT</b>	<b>PDTB113ZT</b>
			2.2	10	<b>PDTD123YT</b>	<b>PDTB123YT</b>
		only R1	2.2	-	<b>PDTD123TT</b>	<b>PDTB123TT</b>

### Cross reference list

Device	NXP replacement	Device	NXP replacement	Device	NXP replacement
KRC241S	PBRN113ET	BCR503	PDTD123ET	DDTB123EC	PDTB123ET
KRA221S	PBRP113ET	BCR505	PDTD123YT	DDTB123TC	PDTB123TT
KRC245S	PBRN113ZT	PCR521	PDTD113ET	DDTB123YC	PDTB123YT
KRA225S	PBRP113ZT	BCR523	PDTD113ZT	DDTD113EC	PDTD113ET
KRC242S	PBRN123ET	BRC553	PDTB123ET	DDTD113ZC	PDTD113ZT
KRA222S	PBRP123ET	BCR571	PDTB113ET	DDTC123EC	PDTD123ET
KRC246S	PBRN123YT	BCR573	PDTB113ZT	DDTC123TC	PDTD123TT
KRA226S	PBRP123YT	DDTB113EC	PDTB113ET	DDTC123YC	PDTD123YT
		DDTB113ZC	PDTB113ZT		

