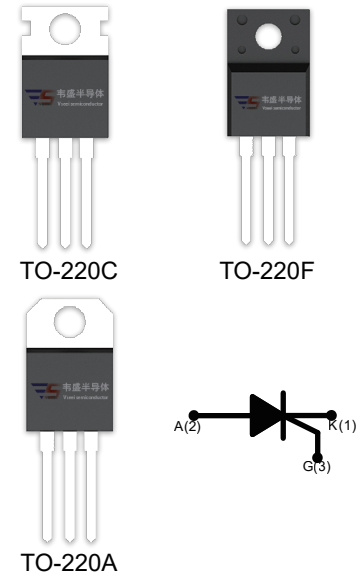


## DESCRIPTION:

With high ability to withstand the shock loading of large current, BT145-800R series of silicon controlled rectifiers provide high dv/dt rate with strong resistance to electromagnetic interference. They are especially recommended for use on solid state relay, motorcycle, power charger, T-tools etc.



## MAIN FEATURES

Symbol	JCT625	JCT825
$V_{DRM}/V_{RRM}$	600V	800V
$I_{T(RMS)}$	25A	
$I_{GT}$	$\leq 40mA$	

## ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Storage junction temperature range		$T_{stg}$	-40-150	$^{\circ}C$
Operating junction temperature range		$T_j$	-40-150	$^{\circ}C$
Repetitive peak off-state voltage( $T_j=25^{\circ}C$ )		$V_{DRM}$	600/800	V
Repetitive peak reverse voltage( $T_j=25^{\circ}C$ )		$V_{RRM}$	600/800	V
RMS on-state current	TO-220A(Ins)/ TO-220F(Ins) ( $T_c=95^{\circ}C$ )	$I_{T(RMS)}$	25	A
	TO-220A(Non-Ins)/ TO-220C( $T_c=115^{\circ}C$ )			
Non repetitive surge peak on-state current ( $t_p=10ms$ )		$I_{TSM}$	300	A
$I^2t$ value for fusing ( $t_p=10ms$ )		$I^2t$	450	$A^2s$

Critical rate of rise of on-state current ( $I_G=2 \times I_{GT}$ )	$dI/dt$	50	A/ $\mu$ s
Peak gate current	$I_{GM}$	4	A
Average gate power dissipation	$P_{G(AV)}$	1	W
Peak gate power	$P_{GM}$	5	W

**ELECTRICAL CHARACTERISTICS** ( $T_j=25^\circ\text{C}$  unless otherwise specified)

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
$I_{GT}$	$V_D=12\text{V } R_L=33\Omega$	-	-	40	mA
$V_{GT}$		-	-	1.3	V
$V_{GD}$	$V_D=V_{DRM} T_j=150^\circ\text{C } R_L=3.3\text{K}\Omega$	0.2	-	-	V
$I_L$	$I_G=1.2I_{GT}$	-	-	90	mA
$I_H$	$I_T=500\text{mA}$	-	-	80	mA
$dV/dt$	$V_D=2/3V_{DRM}$ Gate Open $T_j=150^\circ\text{C}$	200	-	-	V/ $\mu$ s

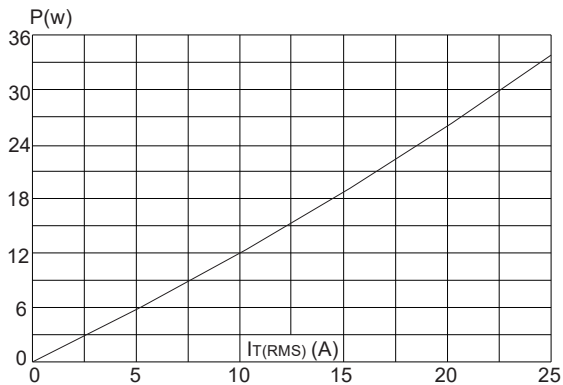
**STATIC CHARACTERISTICS**

Symbol	Parameter		Value(MAX)	Unit
$V_{TM}$	$I_{TM}=50\text{A } t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	1.55	V
$I_{DRM}$	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	10	$\mu\text{A}$
$I_{RRM}$		$T_j=150^\circ\text{C}$	4	mA

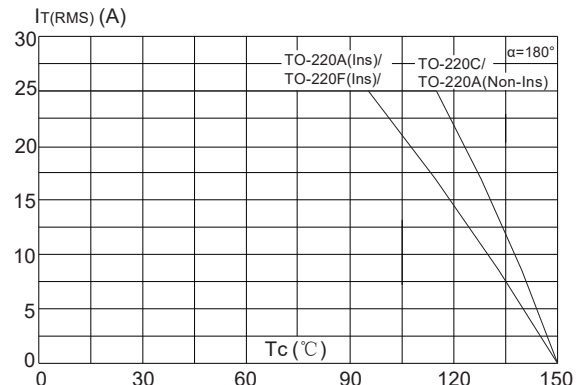
**THERMAL RESISTANCES**

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-220A(Ins)/ TO-220F(Ins)	1.7	$^\circ\text{C/W}$
		TO-220A(Non-Ins)/ TO-220C	1.0	

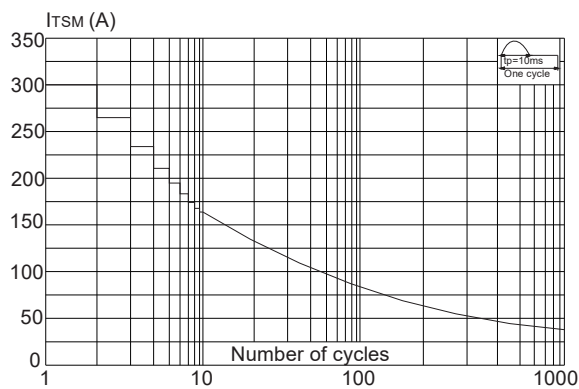
**FIG.1:** Maximum power dissipation versus RMS on-state current



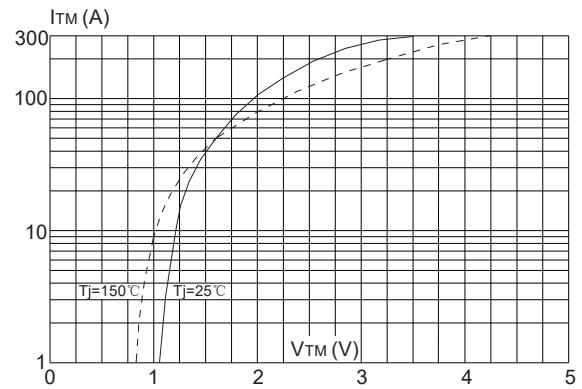
**FIG.2:** RMS on-state current versus case temperature



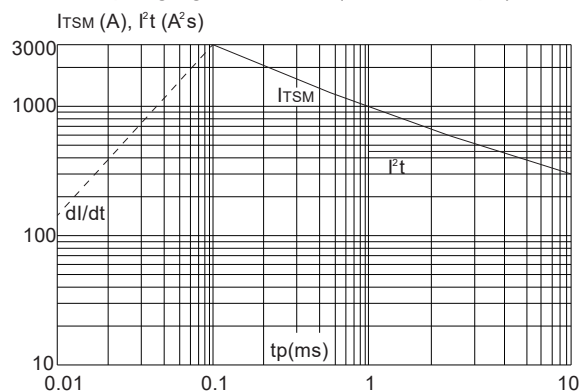
**FIG.3:** Surge peak on-state current versus number of cycles



**FIG.4:** On-state characteristics (maximum values)



**FIG.5:** Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 10ms$ , and corresponding value of  $I^2t$  ( $di/dt < 50A/\mu s$ )



**FIG.6:** Relative variations of gate trigger current, holding current and latching current versus junction temperature

