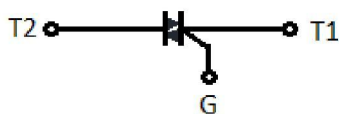
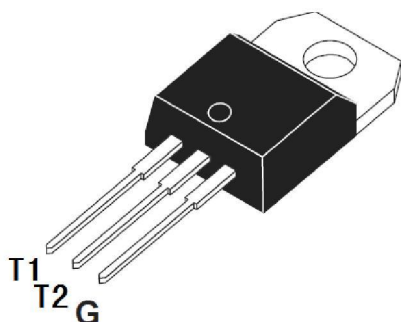


TO-220AB



Primary Characteristics

$I_{T(RMS)}$	8A
$V_{DRM/RRM}$	600/800V
$I_{TSM} @ t_p=10ms$	80A
$I_{TSM} @ t_p=16.7ms$	84A
$T_J \text{ max.}$	-40 ~ +125 °C

Features

- High surge capability
- High reliability capability
- Suffix "F" indicates halogen free parts, ex. SPJT8JF



Mechanical Data

- Case : TO-220AB, Molded plastic
- Terminal: Pure tin plated, lead free
- Weight : Approx. 2.25g

Absolute Rating ($T_a=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Repetitive Peak off-state Voltage	V_{RRM}	600/800	V
	V_{DRM}	600/800	V
RMS on-state Current	$I_{T(RMS)}$	8	A
Non Repetitive Peak On-State Current @ $t_p=10ms$ @ $t_p=16.7ms$	I_{TSM}	80	A
		84	A
I^2t Value @ $t_p=10ms$	I^2t	30	A ² s
Critical Rate of Rise of on-state Current $I_G=2 \cdot I_{GT}$, $Tr \leq 100ns$, $F=100Hz$	di/dt	50	A/us
Peak Gate Current @ $T_J=125^\circ\text{C}$	I_{GM}	4	A
Average Gate Power Dissipation	$P_{G(AV)}$	1	W
Operating Junction Temperature	T_J	-40 ~ +125	°C
Storage Temperature	T_{STG}	-40 ~ +150	°C

Electrical Characteristics										
Symbol	Test Condition		Quadrant	Value						Unit
				TW	SW	CW	BW	C	B	
V_{TM}	$I_{TM}=12A$, $t_p=380\mu s$	$T_C=25^\circ C$		1.55						V
I_{DRM1}	$V_D=V_{DRM}$	$T_C=25^\circ C$		≤ 5						μA
I_{DRM2}		$T_C=125^\circ C$		≤ 1						mA
I_{RRM1}	$V_R=V_{RRM}$	$T_C=25^\circ C$		≤ 5						μA
I_{RRM2}		$T_C=125^\circ C$		≤ 1						mA
V_{GT}	$V_D=12V$, $R_L=30\Omega$	$T_C=25^\circ C$		≤ 1.3						V
V_{GD}	$V_D=V_{DRM}$, $R_L=3.3K\Omega$	$T_J=125^\circ C$		≥ 0.2						V
I_{GT}	$V_D=12V$, $R_L=30\Omega$	$T_C=25^\circ C$	I-II-III	≤ 5	≤ 10	≤ 25	≤ 50	≤ 25	≤ 50	mA
		$T_C=25^\circ C$	IV	-	-	-	-	≤ 50	≤ 100	mA
I_L	$I_G=1.2 \cdot I_{GT}$	$T_C=25^\circ C$	I-III	≤ 10	≤ 25	≤ 50	≤ 70	≤ 40	≤ 50	mA
		$T_C=25^\circ C$	IV	-	-	-	-	≤ 40	≤ 50	mA
		$T_C=25^\circ C$	II	≤ 15	≤ 30	≤ 60	≤ 80	≤ 80	≤ 100	mA
I_H	$I_T=0.2A$	$T_C=25^\circ C$		≤ 10	≤ 15	≤ 35	≤ 60	≤ 25	≤ 50	mA
dv/dt	$V_D=67\%V_{DRM}$ gate open	$T_J=125^\circ C$		≥ 40	≥ 100	≥ 400	≥ 1000	≥ 200	≥ 400	V/ μs

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