

HIGH CURRENT SWITCHING APPLICATIONS.

INDUSTRIAL APPLICATIONS

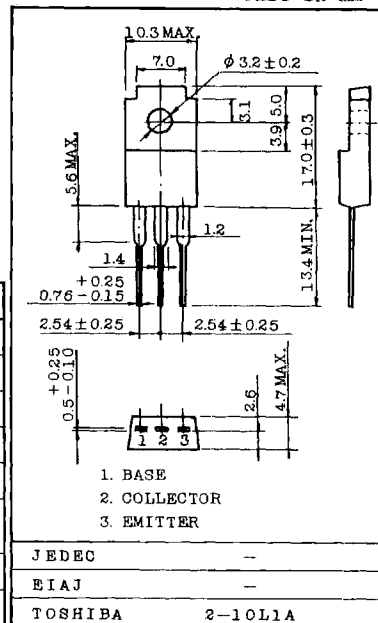
Unit in mm

FEATURES:

- Low Collector Saturation Voltage  
:  $V_{CE(sat)}=0.4V(\text{Max.})$  (at  $I_C=6A$ )
- High Speed Switching Time :  $t_{stg}=1.0\mu s(\text{Typ.})$
- Complementary to 2SA1451

MAXIMUM RATINGS ( $T_a=25^\circ C$ )

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CB0}$	60	V
Collector-Emitter Voltage	$V_{CE0}$	50	V
Emitter-Base Voltage	$V_{EB0}$	6	V
Collector Current	$I_C$	12	A
Base Current	$I_B$	2	A
Collector Power Dissipation ( $T_c=25^\circ C$ )	$P_C$	30	W
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55~150	$^\circ C$

ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ C$ )

Weight: 2.1g

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		$I_{CBO}$	$V_{CB}=60V, I_E=0$	-	-	10	$\mu A$
Emitter Cut-off Current		$I_{EBO}$	$V_{EB}=6V, I_C=0$	-	-	10	$\mu A$
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C=50mA, I_B=0$	50	-	-	V
DC Current Gain		$h_{FE(1)}$ (Note)	$V_{CE}=1V, I_C=1A$	70	-	240	
		$h_{FE(2)}$	$V_{CE}=1V, I_C=6A$	40	-	-	
Saturation Voltage	Collector-Emitter	$V_{CE(sat)}$	$I_C=6A, I_B=0.3A$	-	0.25	0.4	V
	Base-Emitter	$V_{BE(sat)}$	$I_C=6A, I_B=0.3A$	-	0.9	1.2	
Transition Frequency		$f_T$	$V_{CE}=5V, I_C=1A$	-	90	-	MHz
Collector Output Capacitance		$C_{ob}$	$V_{CB}=10V, I_E=0, f=1MHz$	-	180	-	pF
Switching Time	Turn-on Time	$t_{on}$	<p>20<math>\mu s</math> INPUT <math>I_{B1}</math> OUTPUT <math>I_{B2}</math> 5<math>\Omega</math> <math>V_{CC}=30V</math></p> <p><math>I_{B1}=-I_{B2}=0.3A</math> DUTY CYCLE <math>\leq 1\%</math></p>	-	0.2	-	$\mu s$
	Storage Time	$t_{stg}$		-	1.0	-	
	Fall Time	$t_f$		-	0.2	-	

Note :  $h_{FE(1)}$  Classification 0 : 70~140, Y : 120~240

