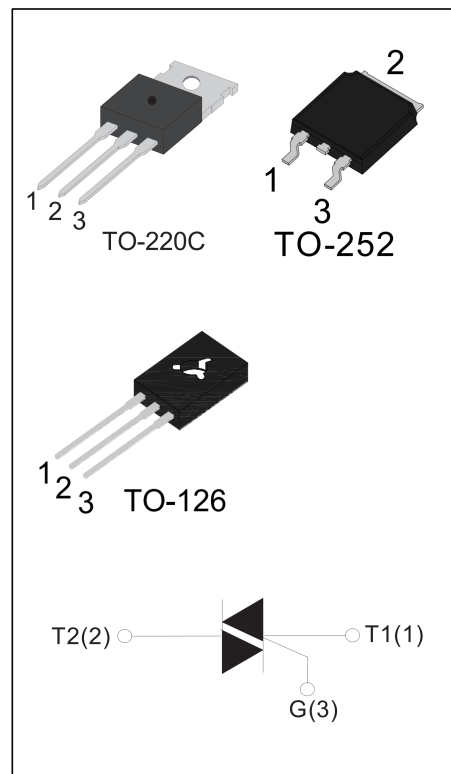


MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	4	A
I_{GT}	25	mA
V_{DRM} / V_{RRM}	600	V



ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40 - 150	°C
Operating junction temperature range	T_j	-40 - 125	°C
Repetitive peak off-state voltage($T_j=25^{\circ}\text{C}$)	V_{DRM}	800	V
Repetitive peak reverse voltage($T_j=25^{\circ}\text{C}$)	V_{RRM}	800	V
Non repetitive surge peak Off-state voltage	V_{DSM}	$V_{DRM} + 100$	V
Non repetitive peak reverse voltage	V_{RSM}	$V_{RRM} + 100$	V
RMS on-state current	$I_{T(RMS)}$	4	A

TO-220C $T_c = 100^{\circ}\text{C}$
TO-252 $T_c = 73^{\circ}\text{C}$
TO-126 $T_c = 73^{\circ}\text{C}$

Non repetitive surge peak on-state current (full cycle, F=50Hz)		I_{TSM}	25	A
I^2t value for fusing ($t_p = 10ms$)		I^2t	3.1	A^2s
Critical rate of rise of on-state current ($I_G = 2 \times I_{GT}$)	I - II - III	di/dt	50	$A/\mu s$
	IV		10	
Peak gate current		I_{GM}	2	A
Average gate power dissipation		$P_{G(AV)}$	0.5	W
Peak gate power		P_{GM}	5	W

ELECTRICAL CHARACTERISTICS ($T_j = 25^\circ C$ unless otherwise specified)

Symbol	Test Condition	Quadrant		Value			Unit
				05	10	25	
I_{GT}	$V_D = 12V$ $R_L = 33\Omega$	I - II - III	MAX	5	5	10	mA
		IV		5	10	25	
V_{GT}		ALL	MAX	1.3			V
V_{GD}	$V_D = V_{DRM}$ $T_j = 125^\circ C$ $R_L = 3.3K\Omega$	ALL	MIN	0.2			V
I_L	$I_G = 1.2I_{GT}$	I - III - IV	MAX	8	10	20	mA
		II		12	15	35	
I_H	$I_T = 100mA$		MAX	5	10	20	mA
dV/dt	$V_D = 2/3V_{DRM}$ Gate Open $T_j = 125^\circ C$		MIN	20	50	100	$V/\mu s$
$(dV/dt)_c$	$(di/dt)_c = 1.1A/ms$ $T_j = 125^\circ C$		MIN	0.5	1	5	$V/\mu s$

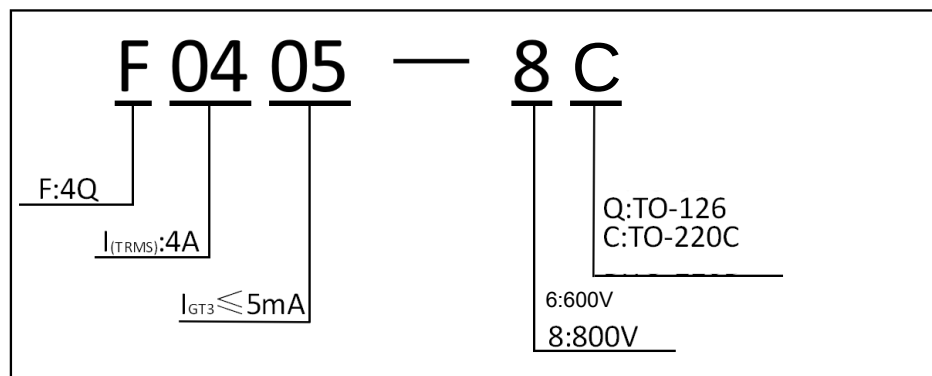
STATIC CHARACTERISTICS

Symbol	Parameter		Value	Unit
V_{TM}	$I_{TM} = 5A$ $t_p = 380\mu s$	$T_j = 25^\circ C$	1.7	V
I_{DRM}	$V_D = V_{DRM}$ $V_R = V_{RRM}$	$T_j = 25^\circ C$	5	μA
I_{RRM}		$T_j = 125^\circ C$	0.5	mA

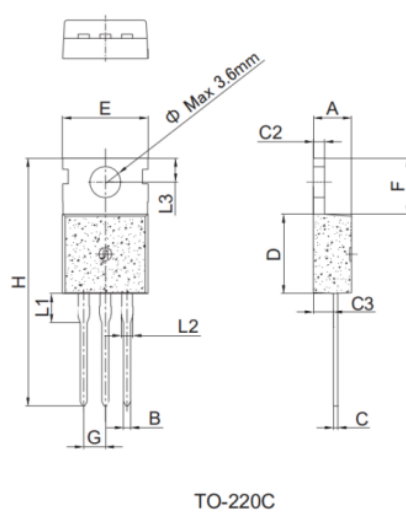
THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-252	3.7	$^{\circ}\text{C/W}$
		TO-220C	3.2	
		TO-126	4.1	

ORDERING INFORMATION

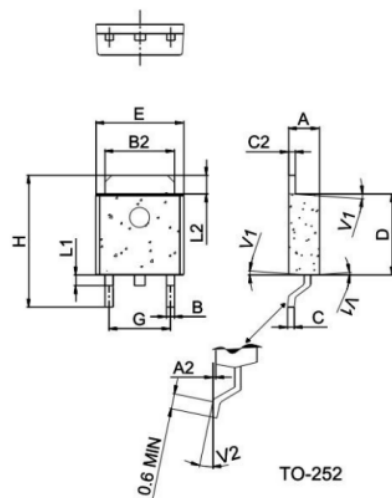


PACKAGE MECHANICAL DATA

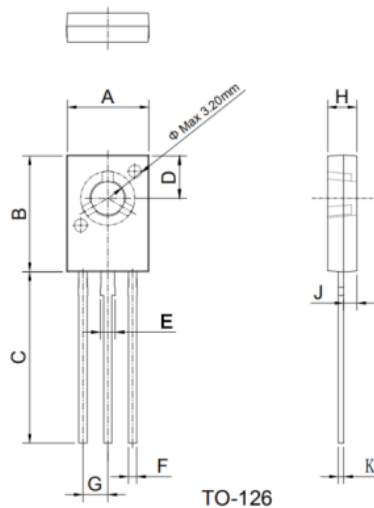


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.70		0.90	0.028		0.035
C	0.45		0.60	0.018		0.024
C2	1.30		1.48	0.048		0.052
C3	2.20		2.60	0.087		0.102
D	8.90		9.90	0.350		0.390
E	9.90		10.3	0.390		0.406
F	6.30		6.90	0.248		0.272
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.39			0.133	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
Φ		3.6			0.142	

PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.20		2.40	0.086		0.095
A2	0.03		0.23	0.001		0.009
B	0.55		0.65	0.022		0.026
B2	5.10		5.40	0.200		0.213
C	0.45		0.62	0.018		0.024
C2	0.71		0.99	0.019		0.024
D	6.00		6.20	0.236		0.244
E	6.40		6.70	0.252		0.264
G	4.40		4.70	0.173		0.185
H	9.35		10.60	0.368		0.417
L1	1.30		1.70	0.051		0.067
L2	1.37		1.50	0.054		0.059
V1		4°				
V2	0°		8°	0°		8°



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	7.43		8.23	0.292		0.324
B	10.07		11.27	0.396		0.443
C	15.4		17.4	0.606		0.685
D	0.80		4.20	0.149		0.165
E	1.17		1.47	0.046		0.058
F	0.48		0.88	0.018		0.034
G		2.29			0.090	
H	2.50		2.90	0.098		0.114
J	1.10		1.50	0.043		0.059
K	0.45		0.60	0.018		0.024

FIG.1:Maximum power dissipation versus RMS on-state current(full cycle)

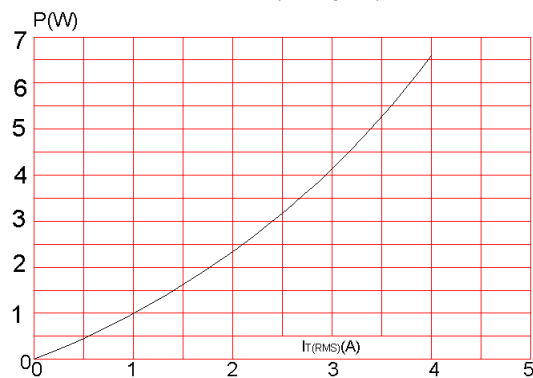


FIG.2:RMS on-state current versus mounting base temperature(full cycle)

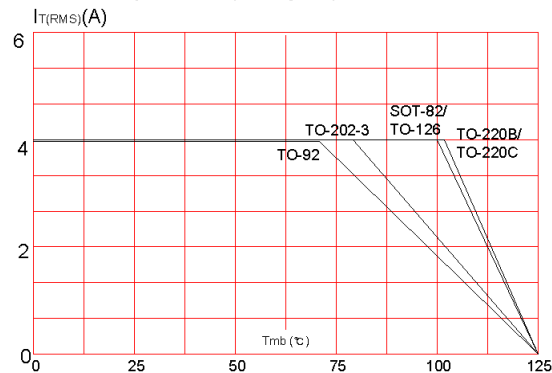


FIG.3: On-state characteristics (maximum values).

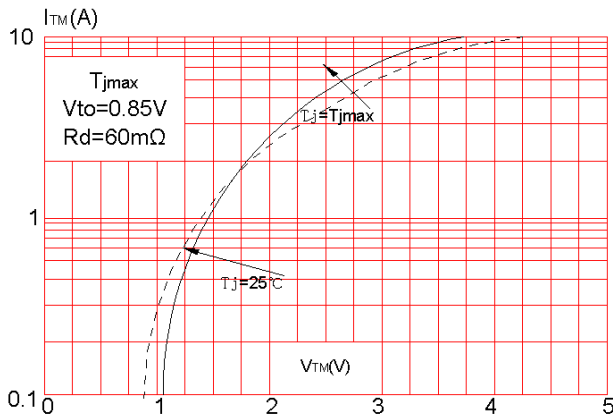


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t .

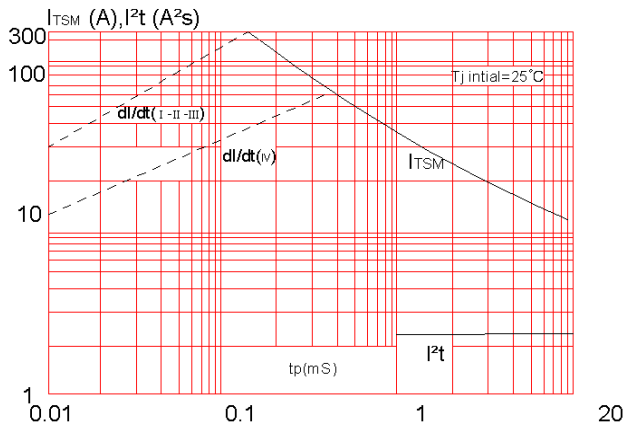


FIG.7: Relative variations of holding current versus junction temperature (typical values)

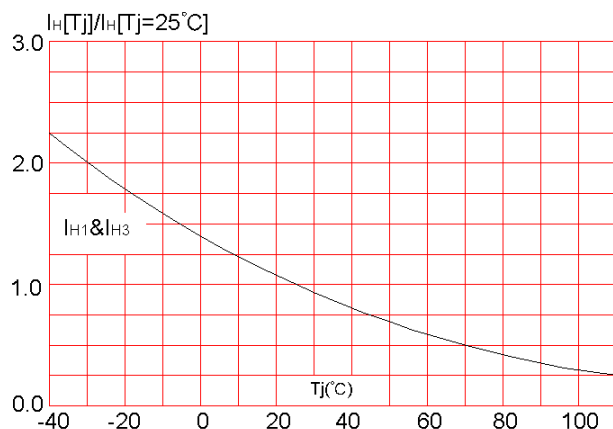


FIG.4: Surge peak on-state current versus number of cycles.

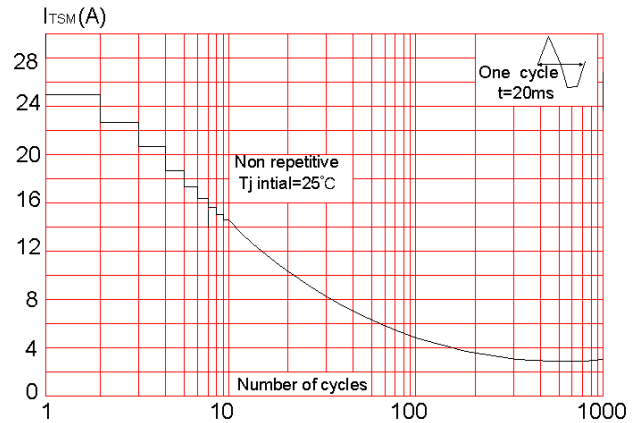


FIG.6: Relative variations of gate trigger current versus junction temperature

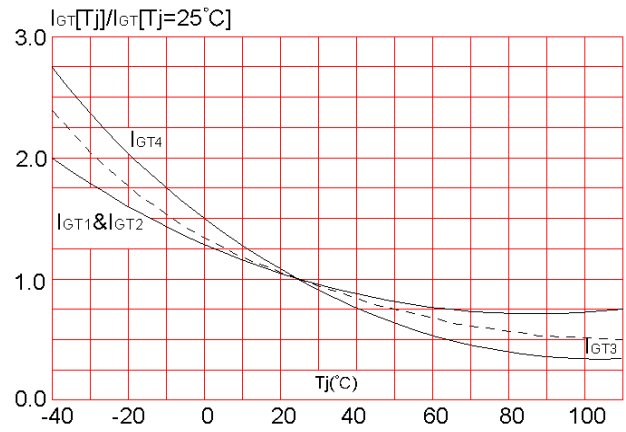


FIG.8: Relative variations of latching current versus junction temperature (typical values)

