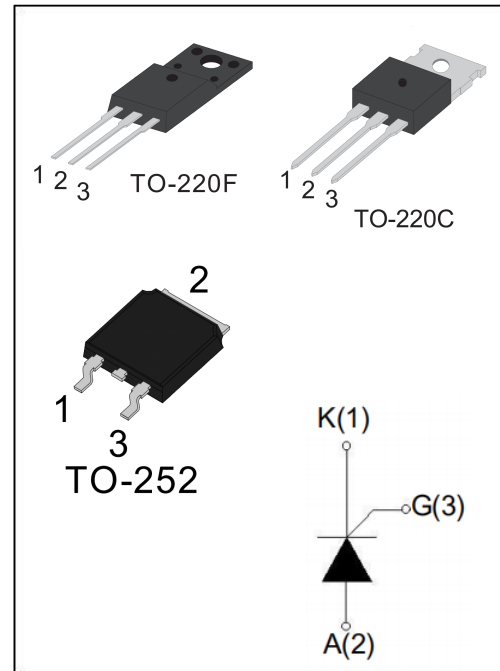


MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	10	A
I_{GT}	200	μA
V_{DRM} / V_{RRM}	600	V



ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	$^{\circ}C$
Operating junction temperature range	T_j	-40-125	$^{\circ}C$
Repetitive peak off-state voltage	V_{DRM}	600	V
Repetitive peak reverse voltage	V_{RRM}	600	V
RMS on-state current	$I_{T(RMS)}$	10	A
TO-220C $T_c = 96^{\circ}C$ TO-220F $T_c = 96^{\circ}C$ TO-252 $T_c = 96^{\circ}C$			
Non repetitive surge peak on-state current	I_{TSM}	70	A
($t_p=10ms$)	I^2t	24.5	A^2s
I^2t value for fusing ($t_p=10ms$)	dI/dt	50	$A/\mu s$
Critical rate of rise of on-state current	I_{GM}	4	A
Peak gate current ($t_p=20\mu s$, $T_j=125^{\circ}C$)	P_{GM}	1	W
Average gate power dissipation($T_j=125^{\circ}C$)	$P_{G(AV)}$	1	W

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

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	$V_D = 12\text{V}, R_L = 33\Omega$	70	100	150	μA
V_{GT}		-	-	1.5	V
V_{GD}	$V_D = V_{DRM}, T_j=125^{\circ}\text{C}$	0.2	-	-	V
I_L	$I_G = 1.2 I_{GT}$	-	-	6	mA
I_H	$I_T = 0.05\text{A}$	-	-	5	mA
dV/dt	$V_D = 2/3V_{DRM}, T_j=125^{\circ}\text{C} R_{GK}=1\text{K}\Omega$	5	-	-	$\text{V}/\mu\text{s}$

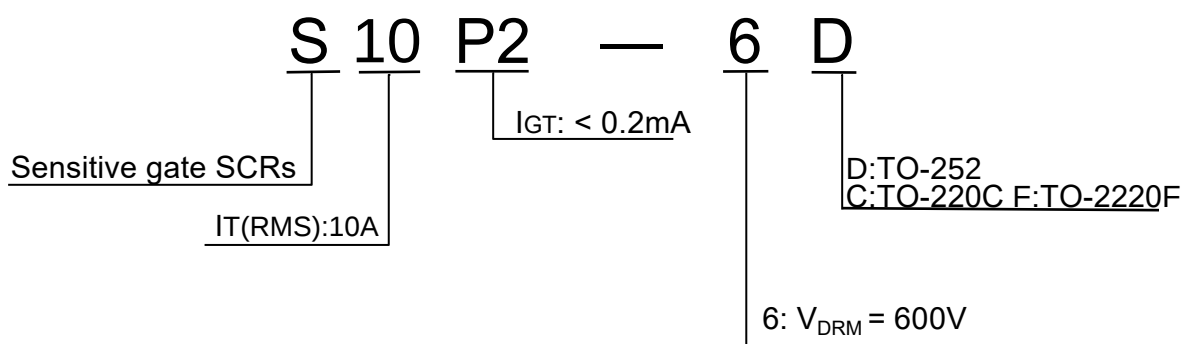
STATIC CHARACTERISTICS

Symbol	Parameter		Value	Unit
V_{TM}	$I_{TM}=4\text{A } tp=380\mu\text{s}$	$T_j=25^{\circ}\text{C}$	1.6	V
I_{DRM}	$V_D = V_{DRM}, V_R = V_{RRM}$	$T_j=25^{\circ}\text{C}$	5	μA
I_{RRM}		$T_j=125^{\circ}\text{C}$	2	mA

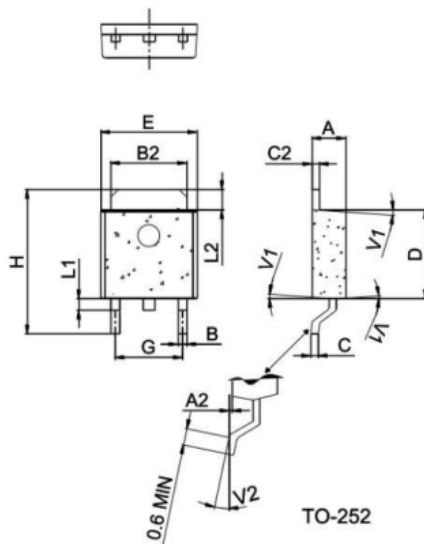
THERMAL RESISTANCES

Symbol	Parameter			Unit
$R_{th(j-c)}$	junction to case	TO252	1.5	$^{\circ}\text{C}/\text{W}$

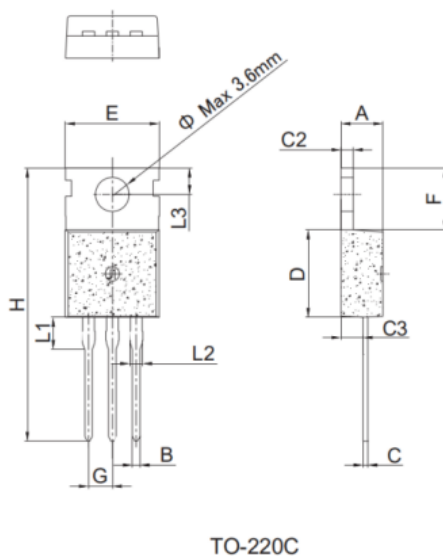
ORDERING INFORMATION



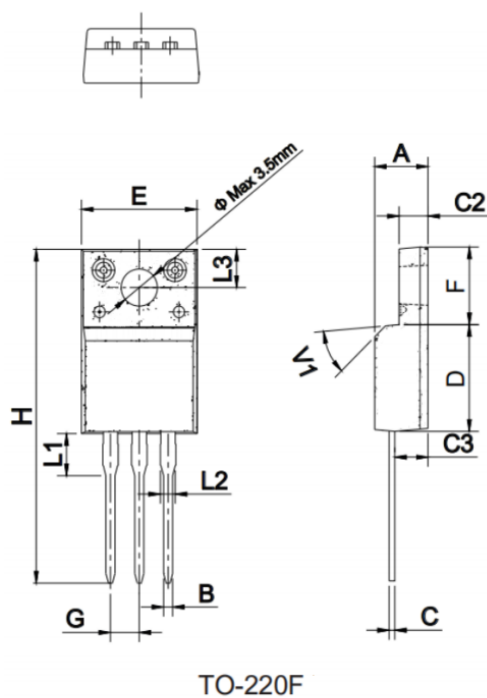
PACKAGE MECHANICAL DATA



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	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	



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.50		4.90	0.177		0.193
B	0.74	0.80	0.83	0.029	0.031	0.033
C	0.47		0.65	0.019		0.026
C2	2.50		3.10	0.096		0.108
C3	2.40		2.80	0.102		0.118
D	8.60		8.90	0.346		0.366
E	9.80		10.4	0.386		0.410
F	6.70		7.50	0.252		0.268
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.63			0.143	
L2	1.14		1.70	0.045		0.067
L3		3.30			0.130	
V1		45°			45°	

PACKAGE MECHANICAL DATA

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

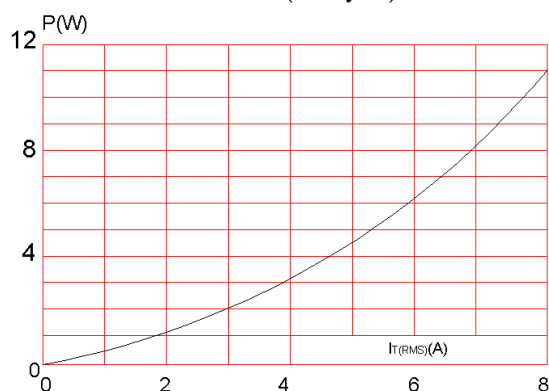


FIG.3: Surge peak on-state current versus number of cycles.

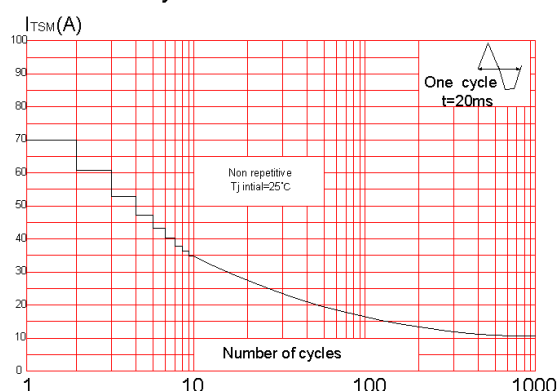
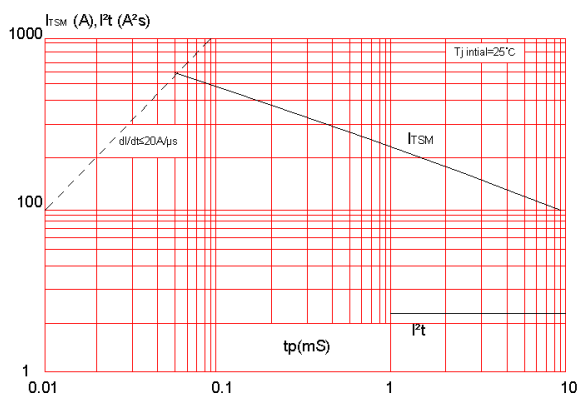
FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t .

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

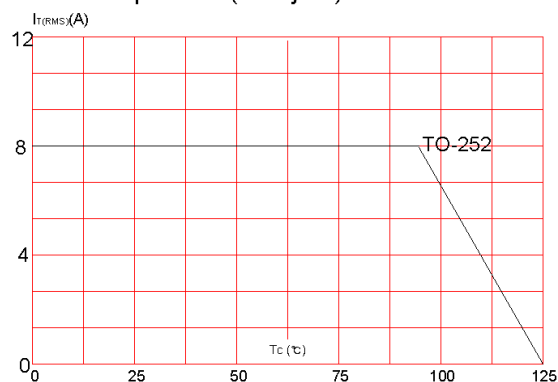


FIG.4: On-state characteristics (maximum values).

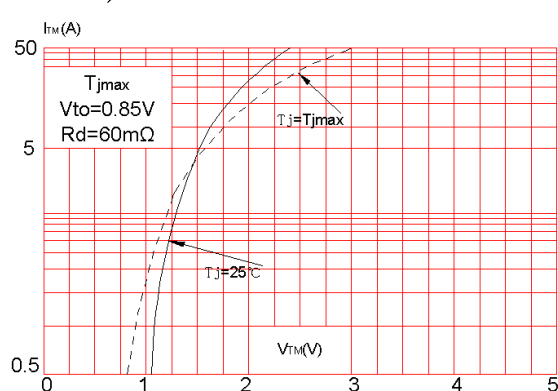


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)

