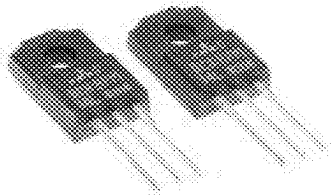


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MEDIUM POWER USE
INSULATED TYPE, PLANAR PASSIVATION TYPE

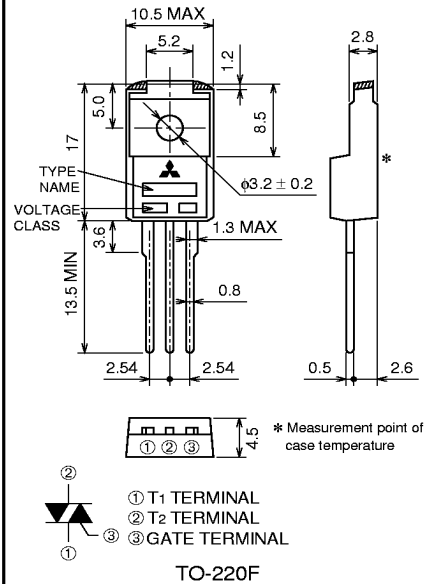
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- IT (RMS) 8A
- VDRM 700V
- IFGT ! , IRGT ! , IRGT # 30mA (20mA) *5
- Viso 1500V
- UL Recognized: File No. E80276

OUTLINE DRAWING

Dimensions
in mm



APPLICATION

Switching mode power supply, light dimmer, electric flasher unit,
control of household equipment such as TV sets · stereo · refrigerator · washing machine · infrared
kotatsu · carpet, solenoid drivers, small motor control,
copying machine, electric tool,
other general purpose control applications

MAXIMUM RATINGS

Symbol	Parameter	Voltage class	Unit
		14	
VDRM	Repetitive peak off-state voltage *1	700	V
VDSM	Non-repetitive peak off-state voltage *1	840	V

Symbol	Parameter	Conditions	Ratings	Unit
IT (RMS)	RMS on-state current	Commercial frequency, sine full wave 360° conduction, Tc=88°C	8	A
ITSM	Surge on-state current	60Hz sinewave 1 full cycle, peak value, non-repetitive	80	A
IF _T	IF _T for fusing	Value corresponding to 1 cycle of half wave 60Hz, surge on-state current	26	A ² s
PGM	Peak gate power dissipation		5	W
PG (AV)	Average gate power dissipation		0.5	W
VGM	Peak gate voltage		10	V
IGM	Peak gate current		2	A
Tj	Junction temperature		-40 ~ +125	°C
Tstg	Storage temperature		-40 ~ +125	°C
—	Weight	Typical value	2.0	g
Viso	Isolation voltage	Ta=25°C, AC 1 minute, T1 · T2 · G terminal to case	1500	V

*1. Gate open.

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MEDIUM POWER USE
INSULATED TYPE, PLANAR PASSIVATION TYPE

ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
I_{DRM}	Repetitive peak off-state current	$T_J=125^{\circ}\text{C}$, V_{DRM} applied	—	—	2.0	mA
V_{TM}	On-state voltage	$T_C=25^{\circ}\text{C}$, $I_{TM}=12\text{A}$, Instantaneous measurement	—	—	1.6	V
$V_{FGT} !$	Gate trigger voltage *2	$T_J=25^{\circ}\text{C}$, $V_D=6\text{V}$, $R_L=6\Omega$, $R_G=330\Omega$	—	—	1.5	V
$V_{RGT} !$			—	—	1.5	V
$V_{RGT} \#$			—	—	1.5	V
$I_{FGT} !$	Gate trigger current *2	$T_J=25^{\circ}\text{C}$, $V_D=6\text{V}$, $R_L=6\Omega$, $R_G=330\Omega$	—	—	30 *5	mA
$I_{RGT} !$			—	—	30 *5	mA
$I_{RGT} \#$			—	—	30 *5	mA
V_{GD}	Gate non-trigger voltage	$T_J=125^{\circ}\text{C}$, $V_D=1/2V_{DRM}$	0.2	—	—	V
$R_{th} (j-c)$	Thermal resistance	Junction to case *4	—	—	3.7	$^{\circ}\text{C}/\text{W}$
$(dv/dt)_c$	Critical-rate of rise of off-state commutating voltage		*3	—	—	$\text{V}/\mu\text{s}$

*2. Measurement using the gate trigger characteristics measurement circuit.

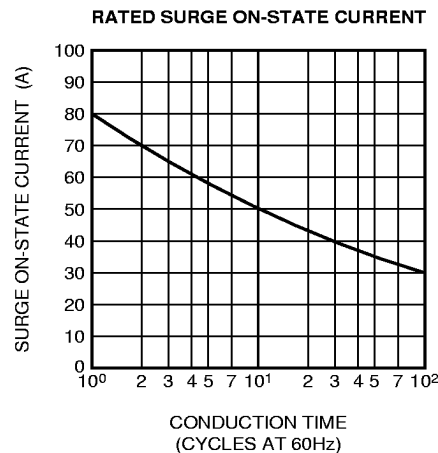
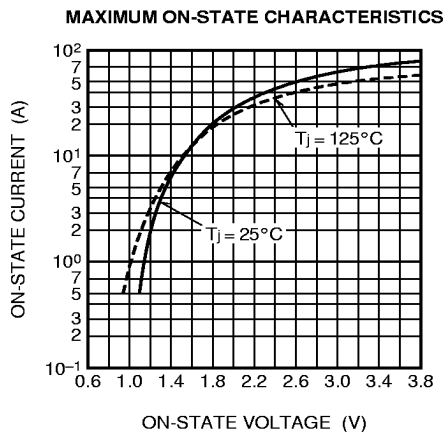
*3. The critical-rate of rise of the off-state commutating voltage is shown in the table below.

*4. The contact thermal resistance $R_{th} (c-i)$ in case of greasing is $0.5^{\circ}\text{C}/\text{W}$.

*5. High sensitivity ($I_{GT} \leq 20\text{mA}$) is also available. (IGT item ①)

Voltage class	V_{DRM} (V)	$(dv/dt)_c$			Test conditions	Commutating voltage and current waveforms (inductive load)
		Symbol	Min.	Unit		
14	700	R	—	$\text{V}/\mu\text{s}$	1. Junction temperature $T_J=125^{\circ}\text{C}$ 2. Rate of decay of on-state commutating current $(di/dt)_c=4.0\text{A/ms}$ 3. Peak off-state voltage $V_D=400\text{V}$	
		L	10			

PERFORMANCE CURVES

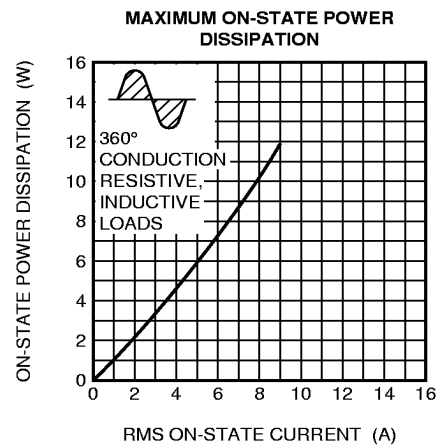
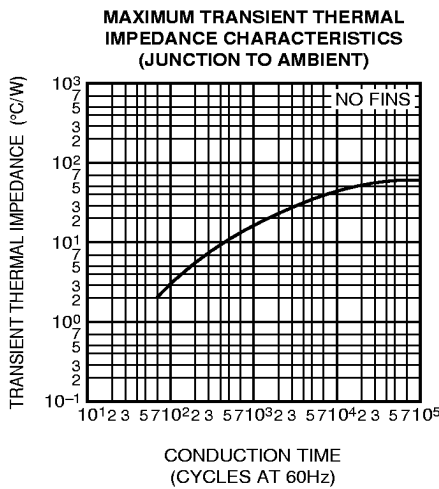
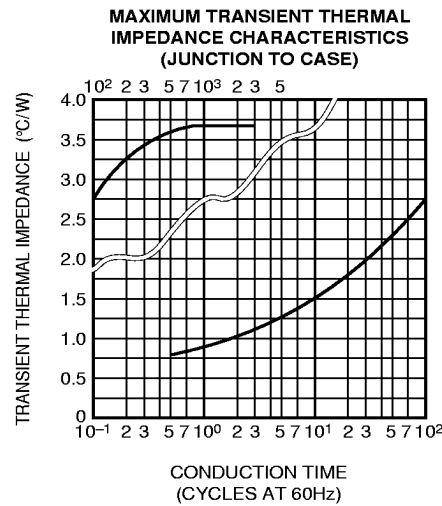
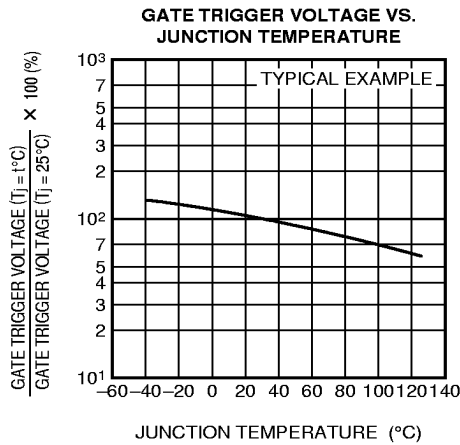
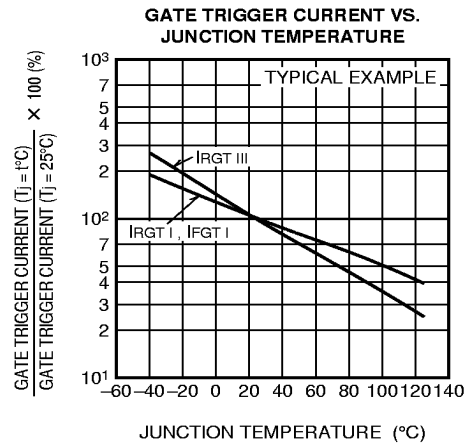
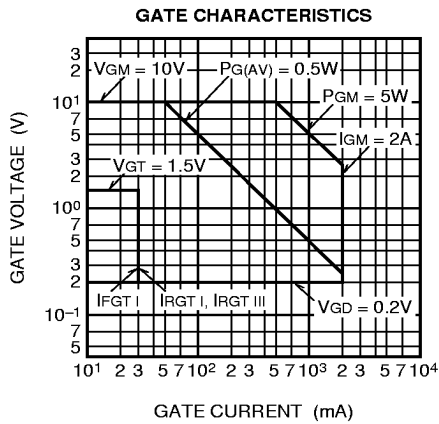


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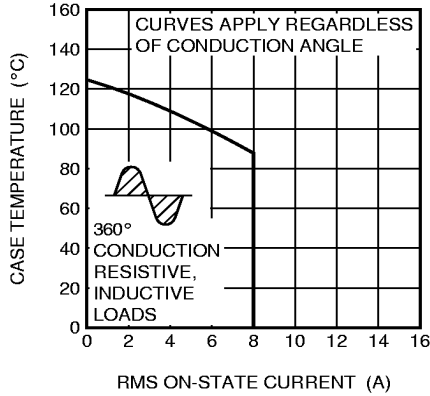
MEDIUM POWER USE
INSULATED TYPE, PLANAR PASSIVATION TYPE



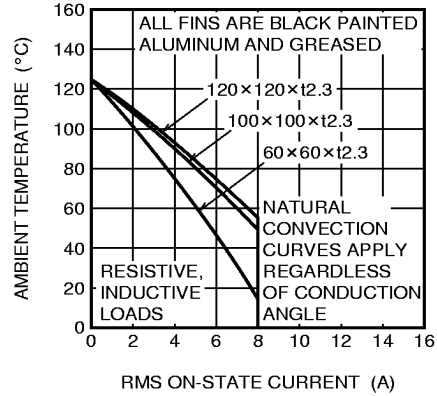
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MEDIUM POWER USE
INSULATED TYPE, PLANAR PASSIVATION TYPE

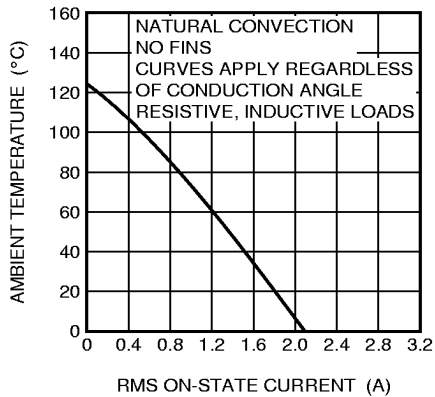
ALLOWABLE CASE TEMPERATURE
VS. RMS ON-STATE CURRENT



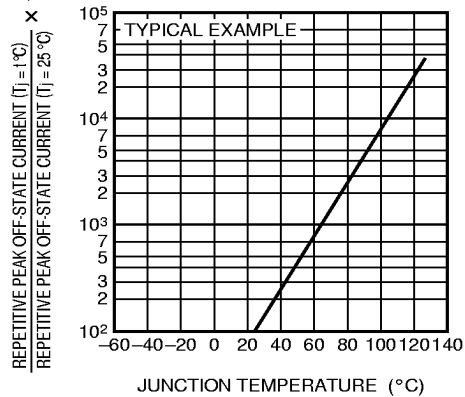
ALLOWABLE AMBIENT TEMPERATURE
VS. RMS ON-STATE CURRENT



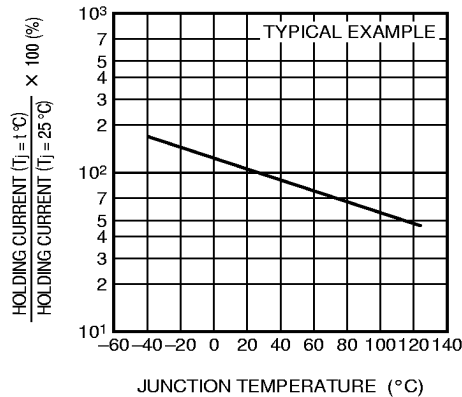
ALLOWABLE AMBIENT TEMPERATURE
VS. RMS ON-STATE CURRENT



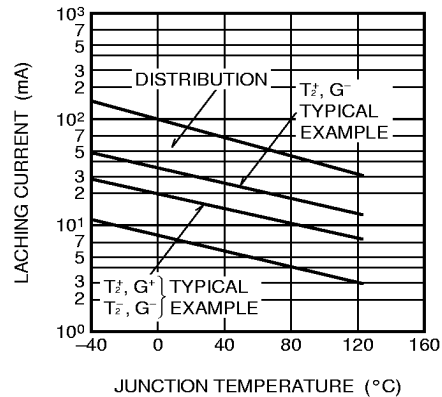
REPETITIVE PEAK OFF-STATE
CURRENT VS. JUNCTION
TEMPERATURE



HOLDING CURRENT VS.
JUNCTION TEMPERATURE

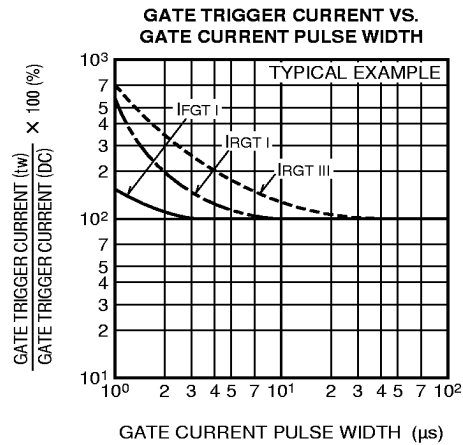
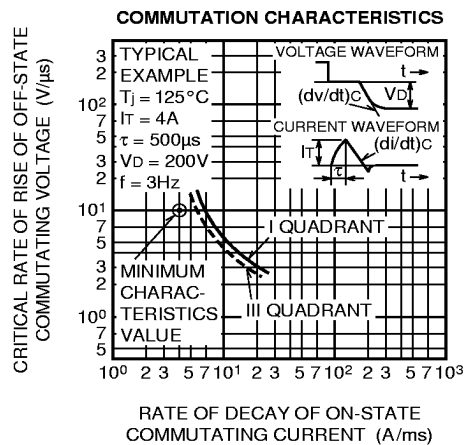
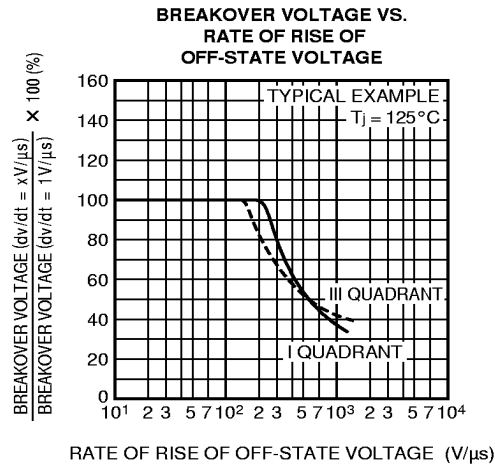
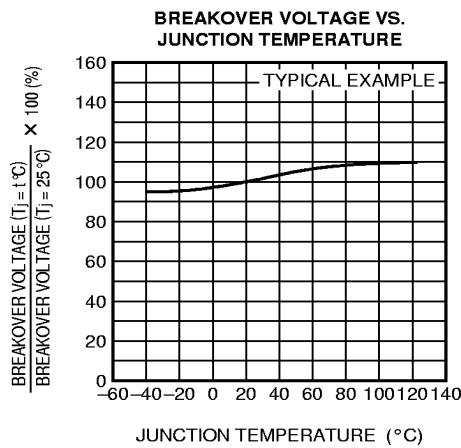


LACHING CURRENT VS.
JUNCTION TEMPERATURE



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MEDIUM POWER USE
INSULATED TYPE, PLANAR PASSIVATION TYPE



GATE TRIGGER CHARACTERISTICS TEST CIRCUITS

